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THE UNIVERSITY OF ALBERTA

AN INVESTIGATION OF THE RESEARCH PRIORITIES
OF CRUCIAL PROBLEMS IN EDUCATIONAL
ADMINISTRATION IN CANADA

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION

DIVISION OF EDUCATIONAL ADMINISTRATION

by

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ABSTRACT

Designed to identify research priorities in educational administration in Canada, this study was an attempt to further the organization of research resources towards their maximum contribution.

First, the crucial problems in educational administration, defined as the total process required to accomplish the goals of education and to define them, were identified. Questionnaires were sent to prominent Canadian educators, some working in school systems as superintendents and inspectors, others in universities and teachers' colleges. From their suggestions, and from a survey of the recent literature, a list of eighty problems, condensed from an original eight hundred items, was produced, divided into nine problem areas.

Next, two criteria--relative cruciality, and suitability for research-- were used to assign one of five gradations of research priority to each problem, and one of four to each problem area. The relative cruciality of a problem was its median rating by sixty members of the 1961 Canadian Education Short Course for Superintendents and Inspectors of Schools. The CPEAC Questionnaire, a type of Q-Sort designed for the study, was the instrument used to collect these ratings. A problem's suitability for research--a composite rating of the ease of doing research on the problem plus the degree to which research seemed able to contribute to its solution--was the median rating by twelve research experts, each using a five-point scale.

The problem awarded highest priority was, "Measuring teacher

competence and performance," with "Developing in children inquiring and independent minds, powers of critical thinking, and self-reliance" second, and "Increasing the impact of research on practice" third. The six problems comprising the highest gradation of research priority had each been ranked among the ten most crucial problems, and had also been rated Suitable or Very Suitable for research. Nine others, rated similarly high on suitability, but ranking eleventh to twenty-fifth on cruciality, formed the second group, with eighteen in the third. Little point was seen for research to concentrate on the twenty-nine problems in the fourth gradation, nor, especially, on those eighteen in the last gradation--all rated either Unsuitable for research, or among the ten least crucial problems, or both.

Of the nine problem areas, Guidance, rated at levels of statistical significance in the highest groupings on both cruciality and suitability, was assigned highest research priority, while Obtaining and Improving Staff, and Teaching Methods and Aids were grouped together as meriting secondary priority. Little priority could be assigned to five other problem areas for they ranked relatively low on one or both criteria, although certain specific problems in these areas deserved top priority. The area Finances and Plant, by its low ratings on both criteria and its not including any individual problems with high priority, was suggested as deserving least attention from research workers.

Comparison of suitability ratings with cruciality ranks suggest strong evidence to support the view that research can contribute appreciably to the solution of many of the crucial problems in

educational administration.

The total effect of the investigation was strong suggestions, first, that research priority could be assigned, and, secondly, that it be assigned to those aspects of educational administration closely related to the classroom, to pupil guidance, staffing, and methods, rather than to its more external facets of finances, plant, organization, co-ordination, or control.

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CHAPTER I

INTRODUCTION

Administration (including supervision) has for over thirty years been a relatively fecund field for research by graduate students in Canadian education. In his review of the 574 theses in education written in Canada from 1930 to 1955, Brehaut classified them into six general educational areas -- supervision and administration, classroom management and methods of teaching, curriculum, psychology and measurement, teacher education and the teaching profession, and general educational philosophy.¹ He found that for that period those in administration and supervision placed second in number, while in the years 1956-1958 they were most numerous.² The investigator, following Brehaut's classificatory scheme and using the descriptions published by the Canadian Education Association of the theses written during 1959³ and 1960⁴ found that of the seventy-five studies completed in 1959, almost half were concerned with this area.

1

Willard Brehaut, A Quarter Century of Educational Research in Canada: An Analysis of Dissertations (English) in Education Accepted by Canadian Universities, 1930-1955 (Information Series No. 10. Toronto: Department of Educational Research, Ontario College of Education, University of Toronto, 1958), 36.

2

_____, "Educational Research in Canada, 1956-1958," Canadian Education, XV (June, 1960), 38.

3

"Summaries of Graduate Theses in Education 1959," Canadian Education, XV (June, 1960), 41-84.

4

"Summaries of Graduate Theses in Education, 1960," Canadian Education and Research Digest, I (June, 1961), 43-72.

Although in 1960 psychology and measurement had again recovered the lead, administration and supervision still accounted for some thirty per cent of the theses. While these figures are somewhat unreliable in that other raters or slightly different concepts of administration would perhaps lead to different classificatory decisions with respect to certain of the studies, the almost three hundred theses in this area are numerically impressive. Moreover, the quality of the research he reviewed was considered by Brehaut as being "in general of fairly good quality".⁵

It would appear to be important that the substantial amount of fairly good research be useful. To influence the conduct of administration, research findings must be communicated to those in the field, who, in turn, must be skillful in their interpretation and effective use. Even more basic to its maximum impact on practice and on the theory supporting practice is the economic and efficient concentration of research on problems demanding priority because of their crucial nature to those in positions of leadership in school systems and in education generally.

I. THE PROBLEM

The purpose of the study was to identify the most promising approaches to research in the administration of education in Canada,

⁵Brehaut, A Quarter Century of Educational Research in Canada, op. cit., 101.

especially to research by graduate students. The following steps were involved: (1) to have educators both in the university and in the field suggest crucial problems facing leaders in education; (2) to supplement these suggestions with others mentioned in recent educational publications; (3) to combine the items from both sources into a list of administrative problems in Canadian education; (4) to have the problems sorted according to cruciality by people in the field; (5) to have them rated as to suitability for research; (6) to make, from an analysis of both ratings, recommendations as to research priority.

II. THE NEED FOR THE STUDY

Suggesting that a systematic approach to educational research was lacking even by 1950, Dunlop noted:

Worst of all, the selection of research topics was without order or system, arising as it did from the whim of a graduate student, the influence of a university instructor, or the interests of an official of the Department of Education.⁶

Croskery, too, suggested the need for a "careful sifting of proposed topics."⁷

In 1961, Andrews, reviewing the emergence of the applied science of school administration made similar recommendations:

Such rapid growth, during a period of immaturity, is inevitably accompanied by great diversity of purposes and procedures. The need

⁶G.M. Dunlop, "Educational Research in Alberta," Canadian Education, IX (March, 1954), 21.

⁷George G. Croskery, "Needs in Educational Research," Canadian Education, VII (December, 1951), 69.

is accentuated, therefore, for consolidation through assessment of different elements of the diversity inherent in early approaches, so that the new field of research may become more systematized and more coordinated.⁸

Moreover, while research can, perhaps, in the short run be judged worthwhile if it merely trains students in research mechanics or strengthens theory, it must ultimately justify itself by encouraging either improved educational practice or the deliberate retention of present good procedures.

In a 1949 survey of the practical value of educational research in the United States, Johnson reported that:

Only 35 percent of the administrators responding were satisfied with what research workers are contributing to help them improve their school programs . . . [and] . . . according to 77 percent of those replying, research reports are too formal and foreign for practical application in ordinary school situations.⁹

The above opinions and findings suggest the need for a study of the research priorities in educational administration, priorities determined in part by the problems experienced at close range by actual administrators, and partly by those visible from the possibly wider perspectives of university professors. A comprehensive outline of such priorities should enable graduate students to select problems which

⁸J.H.M. Andrews, "Research Needs in Educational Administration," Second Canadian Conference on Educational Research, C.P. Collins, editor. (Toronto: The Canadian Education Association, 1961), 61.

⁹L.W. Johnson, "What Administrators Want and Will Use from Research Workers," American Educational Research Association 1949 Official Report, 7-12. Cited by A.P. Coladarci, E. Brooks and W.R. Odell, "Research Priorities in Educational Administration," Journal of Educational Research, XLVII (April, 1954), 625.

once investigated might well prove satisfying in terms not only of parchment, but also of contribution to knowledge crucial to the administration of education in Canada.

III. DELIMITATIONS

Since this was to be a national study, no attempt was made to determine regional or provincial research priority.

The list of problems was rated according to cruciality, only by the members of the 1961 Canadian Education Association Short Course for Superintendents and Inspectors of Schools --the 1961 CEA Short Course. The selection of this group was justified since it constituted a readily-available national sample of widely-experienced, high-level, professional educators, most of whom were generalists. Perhaps this group was better qualified to perform the task than any other single group.

IV. DEFINITION OF TERMS

Educational Administration

Throughout this study the term educational administration means the total process required to accomplish the goals of education and to define these goals.

This implies that parents, teachers, board members, principals, clergymen, and the public generally, are part of educational administration. Such a definition would appear to be especially essential in a study of Canadian education where the various

responsibilities attached to the schools are distributed differently across the nation. Functions performed by boards in one province are performed by superintendents in another, by a supervising principal elsewhere, possibly by a secretary-treasurer somewhere else, by a teacher in some remote area, by a parent or an interested citizen in another part of Canada. Religious groups in some areas have administrative responsibilities assumed elsewhere some by the government, others by the general public.

This concept is considerably more inclusive than a definition based on the actual or ideal behaviour of superintendents or other school officials designated as "administrators". Yet, while it does not rule out their existence as leaders formally charged with specific responsibilities for the educational enterprise, the present definition precludes the assigning of school administration as the exclusive province of a special group of educational managers. It emphasizes the mutual concern of many groups with the proper conduct of education while focusing attention not merely on the aspects of personnel and materiel, but on the goals of education and the teaching process. Moreover, it enables the inclusion of problems of concern to the administration of the whole area, education, rather than merely those facing the regular school system.

Other Terms

Suitability for Research is a composite rating of the ease with which research on a particular problem appears able to be carried out

and the degree to which research seems able to contribute to its solution.

Problem area means a grouping of closely-related problems.

CHAPTER II

PREVIOUS RESEARCH

Few studies in the United States and none in Canada have attempted to establish either research priority or even research needs in school administration. Similarly, there have been but rare attempts to measure the relative importance of problems in this field. On occasion, however, superintendents have been asked to identify their problems.

I. PROBLEMS FACING SUPERINTENDENTS

Ten Problem Areas

One study of educational problems was made by Ogg,¹ who in a Texas survey of the problem-solving procedures used by superintendents, developed a list of ten areas of concern --school finance, buildings, special education, curriculum and instruction, personnel, auxiliary education services, school board-superintendent relations, school evaluation, public relations and general administration. He found that superintendents had problems in each area.

Most Prevalent Problems in Texas

Research conducted in 1952 by the Southwestern CPEA,

¹Terrell W. Ogg, "A Study of Procedures Used in Meeting Administrative Problems in the Schools of Texas with 2000 to 6500 in Average Daily Attendance," Dissertation Abstracts, XIX (1958-59), 262.

--Co-operative Program in Educational Administration--in an attempt to have in-service education help Texas superintendents in their work, first surveyed the superintendents' needs by having 330 of them divide forty problems into five categories, using urgency and importance as criteria. The list of problems had been compiled from superintendents' comments, from topics discussed at professional meetings, and from current literature. It had been evaluated and revised by a twenty-member panel of graduate students and professors. Table I indicates, in order of importance, the eight problems each rated urgent by at least fifty-five per cent of the superintendents, while Table II reports the ten judged least prevalent.

Moore and his associates concluded that most of the real problems in school administration, as perceived by these superintendents, were either community problems, including public relations and adjusting the school curriculum to the social order, or problems of instructional leadership. No attempt was made to indicate the suitability of these problems for research.²

Obstacles Facing Massachusetts' Superintendents

In 1952-53, Gross directed a study of the school superintendents and school boards of Massachusetts. This included eight-hour interviews with each of 105 superintendents, and two-hour interviews with each of the 508 members of their school boards.

²Hollis A. Moore Jr., "Blind Spots in In-Service Education for Administrators," The Nation's Schools, II (April, 1953), 43-46.

TABLE I

PROBLEMS RATED AS CURRENTLY URGENT BY OVER FIFTY-FIVE
PER CENT OF 330 TEXAS SCHOOL SUPERINTENDENTS

Rank	Problem Statement	Per Cent ^a
1	Developing financial support in keeping with local educational needs	67.1
2	Evaluating the efficiency of individual teachers.	65.0
3	Arranging for programs of maximum in-service improvement for the school staff.	62.9
4	Determining the real educational problems peculiar to the social setting of the community .	60.9
5	Enlisting public support for solution of school problems	60.0
6	Identifying unmet needs of school and community .	57.5
7	Establishing the instructional methods to be followed in the teaching of reading	57.2
8	Using public relations media to best advantage. .	55.8

Source: Survey by Southwestern Cooperative Program
in Educational Administration, 1952.³

^aThis column shows the percent of superintendents who checked: "I am faced with this problem currently and consider its solution to be urgent and important."

The remainder of superintendents checked one of the other four possible reactions: "I am aware that this problem exists but am quite certain that more urgent needs will keep it from receiving much of my attention." "While this may be a current problem, I do not consider it very important." "I remember this as a problem at one time, but it has been fairly well solved." "I have never considered this to be a problem of mine."

³Ibid., 44.

TABLE II

LEAST PREVALENT PROBLEMS OF 330 TEXAS SCHOOL SUPERINTENDENTS

Rank	Problem Statement	Per Cent ^a
1	Preventing the school board from exercising executive functions	78.3
2	Seeing that secretaries make good use of their time	76.5
3	Preventing pupil misbehavior.	69.5
4	Making provision for periodic checks on insurance needs and coverage.	68.8
5	Fitting myself in with organized community groups	66.4
6	Simplifying procedures so that persons using supplies get what they want when they want them .	61.7
7	Improving methods of recording attendance	61.2
8	Handling dissatisfied and complaining patrons . .	59.5
9	Keeping board members informed between meetings .	56.1
10	Making it easy and respectable for teachers to air their complaints.	54.4

Source: Survey by Southwestern Cooperative Program in Educational Administration, 1952.⁴

^aThis column shows the per cent of superintendents who checked either: "I remember this as a problem at one time, but it has been fairly well solved" or "I have never considered this to be a major problem of mine."

⁴Ibid.

One of the questions posed was, "What are the major obstacles you face in your efforts to do a good job in your community?" As shown in Table III, inadequate financial support was the major hurdle. Staff inadequacies, community traditionalism and apathy, inefficient or undesirable school board activities, and inability to devote sufficient time to important tasks were also rated by superintendents as factors impeding their effective operation. While the survey does indicate the existence of problems more crucial than others, it was not concerned specifically with any allocation of research priority.⁵

II. ATTEMPTS TO ESTABLISH RESEARCH PRIORITY

Research Needs and Research Completed

There was completed in 1954 an American doctoral dissertation devoted to finding out whether there was any congruency between completed research studies and research needs. After dividing the doctoral theses in educational administration completed in the United States from 1945 to 1952 into thirteen categories and obtaining a frequency count, Taylor asked 421 professors of educational administration and 689 school administrators to determine the research priority of the thirteen fields. He found, that except for regional variations, the perceptions of the relative research priorities by both groups agreed highly with each other and with the topical

⁵Neal Gross, Who Runs Our Schools? (New York: John Wiley & Sons, Inc., 1958).

TABLE III

MAJOR OBSTACLES PERCEIVED IN 1952-1953 BY MASSACHUSETTS SCHOOL
SUPERINTENDENTS AS HINDERING THEM FROM DOING A GOOD JOB

Obstacle	Percentage Considering an Obstacle ^a
Inadequate Financial Support for School System	68
Thirty-one per cent of these considered community able but unwilling, twenty-eight per cent unable, the rest partly unwilling and partly unable.	
Staff Inadequacies	36
Deadwood on staff, inadequate training, non- professional attitudes, unwilling to try new ideas.	
Traditional and Provincial Attitudes of the Community. . .	31
Little appreciation of the changing nature of the school's tasks and its needs.	
Community Apathy	20
School Boards	18
Membership due to political patronage, lack of concern for educational problems, board members acting individually, board by-passing the super- intendent, board timidity especially with finances.	
Inability to Allocate Time to Priority Tasks	12
Superintendent forced to devote time to trivialities, to plant management and financial administration rather than concentrate on planning overall school program or exercise educational leadership in community.	

Source: This table was compiled by the investigator from
statements and tables appearing in the report of
the Gross Survey.⁶

^aThis refers to the percentage of superintendents surveyed
who considered this problem an obstacle.

⁶Ibid., 6-17.

frequency of the recent doctoral research.⁷

Crucial Problems Deserving Research Priority

In 1953 a team from the CPEA Administration Center of Stanford University under the leadership of Coladarci sent a questionnaire to the superintendents of the five largest cities of each of the forty-eight states (240 in all). They were asked, "As you look over the contemporary unresolved administrative problems faced by you in discharging the responsibilities of a city school superintendent, which one, or ones, do you see as most crucial and deserving research priority?" There were 169 responses from forty-six states mentioning 541 items. A summary of their findings appears in Table IV. The chief area of concern was the school staff, especially the obtaining and improving of teachers. The educational program and the role of the school system together accounted for twenty-seven per cent of the items. Public relations was the third major area. Although plant planning and school finance was a relatively unimportant group --only eighty-eight items -- yet, rather remarkable was the fact that the largest single item mentioned was how to obtain increased financial support.⁸

⁷ Harris A. Taylor, "An Analysis of Doctoral Research Problems in School Administration," Dissertation Abstracts, XIV (1954), 2259-60.

⁸ A.P. Coladarci, E. Brooks and W.R. Odell, "Research Priorities in Educational Administration," Journal of Educational Research, XLVII (April, 1954), 625-30.

TABLE IV

UNRESOLVED ADMINISTRATIVE PROBLEMS SUGGESTED BY 169 UNITED
STATES CITY SCHOOL SUPERINTENDENTS IN 1953 AS
CRUCIAL AND DESERVING RESEARCH PRIORITY

Problem Area and Details	Percentage of 541 Items
THE SCHOOL STAFF	35
<u>The Teaching Staff</u> 14	
Improvement of recruitment and selection 5, improve- ment of teacher evaluation and selective retention 4, improvement of in-service training 3, methods of obtaining and maintaining good morale 2	
<u>The Superintendent</u> 10	
Methods for budgeting personal time adequately 3, definition and use of democratic procedures 2, methods of delegating responsibility 2	
<u>The Professional Administrative Staff</u> 8	
Definition of duties and responsibilities 4	
<u>The Supervisory Staff</u> 3	
THE EDUCATIONAL PROGRAM.	23
<u>Curriculum</u> 14	
Definition of basic principles of and effective procedures for general curriculum development 7, improvement of curriculum for the slow learner 2	
<u>Instruction</u> 5	
Methods for validating present procedures 3	
<u>Guidance</u> 4	
Methods of promoting more effective inter-group and inter-individual behaviour 2	
PUBLIC RELATIONS	21
<u>Community Relations</u> 16	
Improvement of general public relations program 7, methods for encouraging and using participation 3, methods for handling community pressure groups 3, methods for reacting to "attacks on the schools" 2	
<u>Relations with School Agencies and Professional Groups</u> 5	
Definition of optimum relationship between local school board and school staff 3	

TABLE IV (Continued)

Problem Area and Details	Percentage of 541 Items
PLANT PLANNING AND SCHOOL FINANCE	16
<u>School Finance</u> 11	
Methods for obtaining increased financial support 8, improvement of budgeting and accounting procedures 2	
<u>Plant Planning</u> 6	
Definition of optimum plant size 2	
ROLE AND RESPONSIBILITY OF THE AMERICAN PUBLIC SCHOOL SYSTEM	4

Note: This table was compiled by the investigator verbatim from the Coladarci study, with two exceptions: here figures are percentages rather than the actual number of items, and, wherever the original number of items was less than eight -- two per cent of the total -- that problem area or detail is omitted.⁹

⁹Ibid., 626-28.

III. SUMMARY

A number of pertinent findings emerge from these studies. Problems facing United States superintendents appear to be concerned with improving and obtaining staff, with finance, the curriculum, the educational needs of society and with public relations. However, none has attempted to find out all the problems facing all those concerned with the administration of education -- superintendents, teachers, boards, professors, and the general public. No study seems to have attempted to force those concerned with education to weigh the many problems and to choose from among them on the basis of priority. While Coladarci reported that there was no agreement concerning the priority of research problems,¹⁰ such a conclusion appears somewhat premature, based as it was on spontaneous answers to a single question and with no attempt to arrive at agreement. The present study is a deliberate attempt to probe the existence of priority problems suitable for research.

¹⁰ Ibid., 628.

CHAPTER III

METHOD OF STUDY

Prerequisite to the determination of which problems in the administration of Canadian education deserved research priority was the knowledge of just what problems there were in this specialty. Once the problems were known they could then be arranged in order of importance and in order of suitability for research. The items judged prior in both arrangements would obviously be of greatest significance to research workers.

I. THE FIRST QUESTIONNAIRE

As part of the attempt to identify the problems in educational administration in Canada, a questionnaire was sent to a number of prominent Canadian educators. Copies of the covering letters and of the questionnaire itself may be found in Appendices A, B, and C. The questionnaire consisted of the single question,

As you consider the presently unresolved problems faced by persons in positions of leadership in school systems, which one, or ones, do you, in the light of your experience, consider the most crucial?

The Samples

The questionnaire was sent to two groups -- the seventy-four members of the 1961 CEA Short Course and forty-seven university professors or teachers' college principals. Details of the composition of each sample are reported in Tables V and VI. The first group, while

TABLE V

MEMBERS OF THE 1961 CEA SHORT COURSE CLASSIFIED BY
EDUCATIONAL POSITION AND BY PROVINCE

Province, etc.	Superintendents and Assistant Superintendents	Supervisors and Inspectors	Supervising Principals	Department of Education Officials	Teachers	Business Officials	School Trustees	Total
Newfoundland	0	2	0	0	0	0	0	2
Nova Scotia	1	2	0	0	0	0	0	3
Prince Edward Island	0	0	2	1	0	0	0	3
New Brunswick	3	0	1	0	0	0	0	4
Quebec	1	3	0	0	1	0	0	5
Ontario	5	17	0	1	0	3	1	27
Manitoba	3	4	0	0	0	0	0	7
Saskatchewan	4	1	0	0	0	0	0	5
Alberta	8	1	0	0	0	0	1	10
British Columbia	4	1	0	0	0	0	1	6
Federal Government	2	0	0	0	0	0	0	2
Total	31	31	3	2	1	3	3	74

Source: Appointment and Mailing List, 1961 CEA Short Course

TABLE VI

CLASSIFICATION BY EDUCATIONAL POSITION AND BY PROVINCE OF
UNIVERSITY PROFESSORS AND TEACHERS' COLLEGES' PRINCIPALS
TO WHOM QUESTIONNAIRES WERE SENT

Province	Deans of Education ^a	Principals of Teachers' Colleges ^b	Professors of Educational Administration	Total
British Columbia	2		1	3
Alberta	1		8	9
Saskatchewan	1	2	1	4
Manitoba	1	1	1	3
Ontario	1	10	2	13
Quebec	4			4
New Brunswick	2	1		3
Nova Scotia	5	1		6
Prince Edward Island		1		1
Newfoundland	1			1
Total	18	16	13	47

^aIncluded here are deans of education, directors of institutes, professors of education where there is no dean, and the like.

^bIncluded here are two people performing similar functions but with different titles.

not a random selection of Canadian superintendents and inspectors, can be considered a purposive sample. Since they were selected by their provincial governments, school boards, or other sponsoring organization, and sent to Banff at a cost of almost five hundred dollars each to the sponsor, it would appear that they would be able to make valid suggestions as to the practical problems facing leaders in Canadian education.

Similarly the deans of education in Canada, the principals of teachers' colleges in all the provinces but Quebec, and all the professors of educational administration in Canada, form another purposive sample capable, in possibly a more detached and a broader manner, of identifying problems which, in the course of their work, they discuss frequently.

The respondents were not requested to sign their names, although they might if they wished. The investigator felt that anonymity might elicit problems which respondents might not otherwise judge expedient to mention.

Returns

The questionnaire was mailed May 8, 1961. By the twenty-ninth, fifty-nine replies had been received. At that time a follow-up letter, together with copies of the original letter and questionnaire, was sent to seventy-three people -- the original 121 less those who had already returned a signed reply. Eventually, replies, mentioning some two hundred items, were received from eighty-eight persons. This was

seventy-three per cent of the total number of people to whom questionnaires had been sent. Chapter IV describes and analyzes these returns.

II. PROBLEMS SUGGESTED BY RECENT LITERATURE

Even though the tabulation and analysis of the items suggested by the respondents to the questionnaire might well have produced a list of the problems facing leaders in Canadian education which could then be rated as to their importance and their suitability for research so that a guide to research priority could be prepared, it was felt that this would not be complete. No attempt had yet been made to determine what teachers, principals, school board members, parents, department officials, and other pertinent groups considered to be the problems in the administration of Canadian education.

The Literature Surveyed

Accordingly, under the assumption that problems on which articles are written are considered important by the authors of the articles, as well as by the editors, possibly by the publishers, and, in the long run, by the readers of the periodicals, a survey was made of the problems in educational administration mentioned in the more recent publications in the field of education. As shown in Appendices E, F, and G, teachers' magazines, trustees' journals, research bulletins, government reports, books, home and school newsletters, and the magazines of a number of other groups were examined. The survey was restricted generally to the publications available at

the University of Alberta library and usually to those published between December, 1959 and May, 1961.

The Method Used

A number of criteria were used in selecting a problem item and recording it on a three by five card:

(a) The author of the article, letter, or book, must have mentioned the item as a crucial problem.

(b) It must be relevant to educational administration in Canada. In addition, duplication of items was avoided. This last point means that the first publications examined usually yielded many more items than those checked later. This helps to explain the differences in the numbers of items taken from the various sources.

The Result

The total yield was some six hundred cards each mentioning a problem, or an aspect of a problem.

III. PRODUCING A MANAGEABLE LIST OF PROBLEMS

The returns to the questionnaire and the survey of the literature together produced about eight hundred problems of many degrees of specificity. Since the problems were to be arranged according to cruciality and according to their suitability for research, and since it was planned to have the people who had been members of the 1961 CEA Short Course to do the former while research experts did the latter, the task was first to reduce the problems to manageable numbers.

This involved several steps.

Classification

The cards were first sorted roughly into thirty-one piles representing different phases of educational administration. The cards in each pile were then examined for duplication and overlapping. Considerable grouping was possible so that the thirty-one piles yielded one hundred ninety-one problems each of which was a summary of from one to twenty-nine cards.

Condensation

There followed a period of condensing the number of problems. One problem was broadened to engulf a second or a third. Problem statements were written and rewritten and then written again to achieve as much unity as possible within the problem, to include as many cards under each problem as possible without discarding anything, but preserving the original foci of concern. By these means the number was reduced to one hundred ten.

First Trial Run

Each of the one hundred ten problems was placed on a card and the Q-Sort procedure discussed in the next section was tried. Stability coefficients, using the Pearson product-moment method of calculating correlation, were found, for the two subjects used, to be .87 and .81. However, the sorting time --one hour--was considered too long. Moreover,

there appeared to be some overlapping of problems.

Re-classification

The previous classification was revised and simplified to yield ten areas of concern in educational administration:

1. The Educational Needs of Society and of the Individual
2. The Curriculum -- for Everybody and for Some
3. Teaching Methods and Aids
4. Guidance
5. Obtaining and Improving Staff
6. Organizing Pupils, Staff, Boards
7. Dividing and Co-ordinating Responsibility
8. Finances and Plant
9. Research and Theory
10. Miscellaneous

By generalizing more broadly, by eliminating overlapping, by subordinating one problem to another, the number was reduced to eighty-two which were again placed on cards and given a second trial run.

The Second Trial Run

Six graduate students did the Q-Sort and a number of others read the problems. From their suggestions the wording was clarified and simplified. Major differences in their sorting were brought to the attention of those who took part, and these differences were verified to be true differences of opinion or differences of background, rather than ambiguities in the wording of the problems.

The Final Check

Finally, by further re-arranging and rewording, the number was reduced to nine areas of concern containing eighty problems, which could be sorted in from thirty to forty-five minutes. It should be noted that the process was one of condensation, co-ordination and even subordination, but never elimination. The eighty problems on the final list in Chapter V contain the substance, and to some extent the biases and feelings, of the original eight hundred items which had been selected because they were suggested as problems by the respondents to the questionnaire, or by writers in education, and because these items were concerned with educational administration in Canada as it has been defined.

IV. RATING PROBLEMS BY CRUCIALITY: THE CPEAC QUESTIONNAIRE

However, this list of problems compiled from items considered crucial to people in education still did not indicate their order of cruciality. Research workers, if they are to be of greatest service, must know which crucial problems are most crucial. Accordingly, the next step in the investigation was to mold the list of problems into an instrument which would indicate any that were generally considered more crucial than others.

The Choice of the Q-Sort

A number of alternative procedures having been considered, the decision was made to use the mechanics of the Q-Sort as developed

by Stephenson,¹ and, in particular, to have the problems sorted by respondents into eleven ranks or categories according to order of cruciality. Category frequencies were established as 3, 5, 7, 9, 10, 12, 10, 9, 7, 5, 3 with scores of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 respectively assigned to them.

Several reasons prompted the choice of this technique. Some forced-choice procedure was essential. Priority based in part on cruciality had to be established among the problems, and because of their method of selection the evidence was that all of them were crucial, at least to some people. A prearranged distribution also eliminates differences in respondents' response styles -- idiosyncrasies that might lead some respondents, for example, to consider everything crucial, or a particularly vexing issue the only one deserving priority.

Although, conservatively speaking, this type of scale is but ordinal, it is generally treated as if the intervals between categories were equal. Mowrer, in referring to the Q-Sort as "a forced normal distribution",² Selltitz, in speaking of it as forming a "roughly normal distribution",³ and Stephenson, in describing "the practice

¹William Stephenson, The Study of Behaviour: Q-Technique and Its Methodology (Chicago: The University of Chicago Press, 1953), especially pages 59-61.

²O.H. Mowrer, " 'Q Technique' -- Description, History, and Critique," Psychotherapy: Theory and Research, O.H. Mowrer, editor (New York: The Ronald Press Company, 1953), 370.

³Claire Selltitz et. al., Research Methods in Social Relations (revised one-volume edition; New York: Henry Holt and Company, Inc., 1959). 378.

of using a much flattened symmetrical distribution of scores for all Q-Sorts",⁴ all implicitly assume an interval scale. There would then appear to be some justification for using parametric statistics in analyzing data provided by this instrument.

Assuming equal intervals between categories, and treating frequencies of the Q-Sort as observed frequencies, a chi-square test of goodness of fit indicates that the Q-Sort distribution is in fact consistent with the normal frequency distribution. (Probability exceeds .99).⁵

Fourthly, this apparently symmetrical, somewhat-normal distribution had built into the scale the probability of high stability coefficients. Cronbach has in effect stated as much:

Since more statements are placed in the middle piles, the subject is freed from many difficult and rather unimportant discriminations he would have to make if he were forced to rank every statement. And the fact that discrimination near the centre of the scale is difficult is reduced in importance by the fact that in product-moment correlations the end cells receive greatest weight.⁶

This suggests, too, the superiority of the Q-Sort over a method of separately ranking eighty statements.

There was a final factor influencing the choice of the Q-Sort.

4

Stephenson, op. cit., 59.

5

Quinn McNemar, Psychological Statistics (New York: John Wiley & Sons, Inc., 1955), 236-40.

6

Lee J. Cronbach, "Correlations between Persons as a Research Tool", Psychotherapy: Theory and Research, O.H. Mowrer, editor, 379.

An instrument with the eighty crucial problems cast in this design possessed for the investigator the additional advantage of being able to be used in subsequent studies of differences in the ratings of individuals or changes in the ratings of an individual over time as the result, perhaps, of a course of instruction.

The CPEAC Questionnaire in Operation

A number of identical sets of cards were prepared, each set containing eighty $4" \times 1\frac{1}{2}"$ cards, on each of which a different problem had been printed. For purposes of identification, each problem was assigned at random one of the numbers from one to eighty. This number, assigned each problem to randomize effects not relevant to the investigation, differs from that by which the problem is listed in Table XXII, and by which reference is made throughout the study.

Each respondent was sent a set of cards and was asked to indicate the degree to which he, in the light of his experience, considered each problem crucial. First, he was to read the problems carefully, sorting them into three groups -- one to contain problems obviously crucial, another those obviously not crucial, and the third those doubtful, or in between. Next, he was to tease the problems from three into eleven piles, putting the three most crucial in the first pile, the five next crucial in the second pile, the seven next crucial in the third, nine in the fourth, ten in the fifth, twelve in the sixth, ten in the seventh, nine in the eighth, seven in the ninth, five in the tenth, three in the eleventh. When the respondent was satisfied with his sorting he was to copy the identification numbers

of the problems in each pile, on a specially-prepared post card. Copies of the covering letter, the post card, and four of the eighty cards, may be found in Appendices H, I, and J, respectively.

The instrument, consisting of the set of cards, the post card, and the instructions, has been named The Crucial Problems in Educational Administration in Canada Questionnaire (CPEAC Questionnaire, or CPEAC Q for short.)

Returns

On July twentieth a copy of the CPEAC Questionnaire was sent to each of the seventy-four members of the 1961 CEA Short Course. On October twelfth a follow-up letter, reproduced in Appendix K, was sent to each of the twenty-one who had not yet replied. By December fifteenth a total of sixty replies had been received -- a return of eighty-one per cent. These were all usable although five had first to be returned to respondents for the correction of errors obviously mechanical, such as the incorrect copying of numbers from cards to post card. The sixty replies provide data for the analysis in Chapter VI of problems considered crucial to educational administration in Canada.

CPEAC Questionnaire: Reliability

Although a test-retest check on reliability using an N of 2 had yielded r's of .87 and .81, it was decided to calculate retest reliability on a sample of the respondents used in the investigation and using a larger N. Accordingly, on August fourteenth, some twenty-five

days after the mailing of the original CPEAC Questionnaire, those from whom a reply had at that time been received were asked to repeat the task. Appendix L contains a copy of the special letter sent at this time. By October twenty-eighth, fourteen had been returned. As is shown in Table VII, coefficients of correlation between the ratings assigned in test and retest ranged from .50 to .99 using the Pearson product-moment method,⁷ and from .46 to .99 using Spearman's ρ corrected for ties.⁸ An average r , obtained by finding the mean of z_r transformations and translating back to r , turned out to be .85.⁹ With 78 degrees of freedom, any r or ρ greater than .360 can be considered as different from zero at the .001 level of confidence.¹⁰

For use with individuals, where coefficients of .90 are usually considered desirable,¹¹ the reliability of the scale may be increased by examining and rewording any item whose test-retest ratings differ for a number of respondents.

CPEAC Questionnaire: Validity

The specific problem posed here with respect to validity is to what extent the CPEAC Questionnaire measures the order of cruciality

⁷ George Ferguson, Statistical Analysis in Psychology and Education (New York: McGraw-Hill Book Company, Inc., 1959), 86-93.

⁸ Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), 202-10.

⁹ Ferguson, op. cit., 151-52.

¹⁰ Calculated from tables of t and formulae given in Ferguson, op. cit., 152 and 183.

¹¹ Selltitz, op. cit., 182.

TABLE VII

TEST-RETEST RELIABILITY OF CPEAC QUESTIONNAIRE

Respondent	Time in Days between Receipts from Respondent of Test and Retest	r	ρ
A	18	.65	.62
B	18	.99	.99
C	19	.89	.91
D	20	.50	.46
E	22	.64	.65
F	30	.82	.80
G	38	.83	.82
H	47	.62	.60
I	49	.64	.63
J	49	.99	.99
K	50	.76	.78
L	59	.89	.90
M	81	.69	.66
N	91	.78	.77
Mean r (Obtained by transforming each r to z_r , calculating the mean z_r , and transforming it back to r)			
		.85	--
Median Stability Coefficient		.77	.78

of the problems in educational administration that face each respondent. The question has three aspects -- whether all crucial problems in educational administration in Canada are included in the questionnaire, whether any of the problems in the questionnaire are not crucial, and the extent to which the instrument enables the respondent to indicate his feelings of the relative cruciality of his problems.

The first aspect -- the inclusiveness of the questionnaire -- has been referred to previously. That each respondent had previously been asked to indicate his most crucial problem (s) and that the instrument had been in part constructed from his response give some assurance that his chief problem (s), at least, is included. However, there is always the possibility that the respondent may not, at the time of the first questionnaire, have been aware of his problems. Again, the respondent may have been one of those who answered the second but not the first questionnaire. The extensive search through the literature, the returns from the eighty-eight people prominently concerned with educational administration in Canada perhaps preclude the possibility of any important problem's not being included in the CPEAC Questionnaire.

Comparison of the content of the final instrument with the problems mentioned in the research reviewed in Chapter II shows that every item in the latter is included in the former with the exceptions of some of the problems listed in Table II as the least prevalent problems of Texas school superintendents. Here then is an indication, although not a numerical index, that the CPEAC Questionnaire possesses content validity and that it does include all the crucial problems

facing educational administrators.

A related aspect is the extent to which the questionnaire includes problems which are not crucial to educational administration in Canada. The instrument itself provides but for relative cruciality and it does not indicate the point below which the respondent considers the problems not at all crucial. However, in addition to the manner in which the items were selected, which would exclude problems not crucial to any of the sources, is the fact that in the rating of problems as detailed in Chapter VI, each was placed by one or more respondents in at least the fourth category, all but two in at least the third, all but six in the second, and all but thirty-two in the first or most crucial category. It would thus appear unlikely that any of the problems are trivial.

A third aspect of the validity of this type of questionnaire has been considered by Andrews¹² and is concerned with the degree to which the wording of the problems and their arbitrary classification into eleven ranks with a specified number in each rank accord with the frame of reference possessed by the respondent with respect to the relative cruciality of problems in educational administration. Any marked incongruence between the questionnaire and the frame of reference will tend to lower the validity of the instrument and perhaps lead to feelings of frustration by the respondent. However, none of the persons

¹²J.H.M. Andrews, Tasks of Public Schools: Public and Professional Opinion (Projects in Canadian School Administration No. 4. Edmonton: Division of Educational Administration, University of Alberta, 1959), 5-6.

who to date have completed the instrument -- the sixty respondents in the study, thirty second-year students in education, and some twenty other people -- has indicated frustration, or that the instrument prevented him from indicating his opinions. On the contrary, several of the sixty respondents have expressed, either by letter, or in person, strong satisfaction with the instrument.

V. RATING PROBLEMS ACCORDING TO SUITABILITY FOR RESEARCH:

THE RESEARCH EXPERT QUESTIONNAIRE

While a list of problems arranged according to cruciality to administrators in the field would be of some guidance, of additional value to research workers, especially to graduate students, would be indications by experts as to the suitability of these problems for research, and suggestions by them as to the types of study, if any, that might be conducted in each problem area.

The Choice of the Five-Point Rating Scale

Since the eighty problems had been selected according to cruciality rather than for their suitability for research, it was possible that a number of items would be unsuitable. Consequently, it was decided to have respondents express opinions, not merely as to relative suitability, but also as to which problems were suitable and which were unsuitable. Accordingly, rather than a forced-choice Q-Sort, there was chosen a five-point scale by which each problem was to be rated 1, 2, 3, 4, or 5 -- Very Suitable, Suitable, Difficult to

Decide between suitable and unsuitable, Unsuitable, and Very Unsuitable for research.

Suggestions as to Type of Research

In addition, each respondent was requested to indicate whichever, if any, type of research, he thought appropriate -- S - Survey, E - Experimental, H - Historical, and P - Philosophical. These four categories had been used by Brehaut in his review of theses in education.¹³

A copy of the covering letter of instructions, including an elaboration of the above-mentioned categories, may be found in Appendix M.

Immediately below is reproduced the first of the eighty-problem list which is the Research Expert Questionnaire. Problems carried the same numbers as they did in the CPEAC Questionnaire.

1	2	3	4	5	S	E	H	P	1.	DEVELOPING A SOUND ROLE FOR THE SUPERINTENDENT -- policy making, curriculum development, etc.; clarifying the role of the provincially-appointed superintendent;
---	---	---	---	---	---	---	---	---	----	--

Returns

On July eighteenth a copy of the Research Expert Questionnaire was sent to each of fourteen persons expertly qualified in educational research. Each had a doctor's degree in education, at least eleven were prominent in educational administration, all had active connections

¹³Willard Brehaut, A Quarter Century of Educational Research in Canada: An Analysis of Dissertations (English) in Education Accepted by Canadian Universities, 1930-1955 (Information Series No. 10. Toronto: Department of Educational Research, Ontario College of Education, University of Toronto, 1958), 15-18.

with educational research -- eleven in universities, three in research organizations. The twelve replies received by October sixth provide the data for the analysis in Chapter V of problems considered suitable for research workers in educational administration in Canada.

Suitability Ratings: Reliability

To provide a measure of the reliability of the Research Expert Questionnaire, a random sample of five of the twelve research experts who had already replied were requested to repeat their task. Appendix N contains a copy of the letter sent to them December twenty-seventh, some five months after the completion of the first Research Expert Questionnaire. By January twenty-seventh three replies had been received. As shown in Table VIII, coefficients of correlation between the ratings of test and retest, and calculated by the product-moment method were .37, .35 and .69. The average r obtained by means of the z_r transformation turned out to be .49. Rank order correlations -- Spearman's ρ corrected for tied ranks -- were .35, .52 and .67. With 78 degrees of freedom, any r or ρ greater than .360 can be considered different from zero at the .001 level of confidence and any greater than .287 different from zero at the .01 level.¹⁴

For a second check on reliability, the twelve original ratings were considered as part of one long scale. Using two-way analysis of variance, as indicated by Guilford, and assuming equal intervals, the

¹⁴Calculated from tables of t , using formulae given in Ferguson, op. cit., 152 and 183.

TABLE VIII

TEST-RETEST RELIABILITY OF RESEARCH EXPERT QUESTIONNAIRE

Respondent	Time in Days between Receipts from Respondent of Test and Retest	r	<i>p</i>
X	140	.37	.35
Y	147	.35	.52
Z	161	.69	.67
Mean r (Obtained by transforming each r to z_r , calculating the mean z_r , and trans- forming it back to r)		.49	--

intraclass correlation was found to be .55. Taking the inter-correlation of research experts to be an indication of the reliability of the ratings, the typical reliability of a single research expert's rating can be stated as being .55.¹⁵

That this index is of an order generally considered low is perhaps due in part to differences in research experts' experience and outlook. However, coupled with the low stability coefficients, it indicates that while the problems as worded may be clear to administrators in the field, they may well have to be reworded and re-grouped for research experts to render more reliable ratings. That, from the research point of view, these problems are topics rather than research problems tends to decrease reliability, for rating depends in part on visualizing one or more good research problems within the topic, and therefore on a kind of fluctuating creativity in the rater.

Suitability Ratings: Validity

The specific problem posed with respect to the validity of that section of the Research Expert Questionnaire dealing with rating the problems as to their suitability for research is to what extent the instrument can measure the suitability for research of the eighty problems. Several points bear mentioning.

Answering the questionnaire proved to be a somewhat arduous task. Four of the twelve respondents indicated as much in letters to the investigator. Four others seemed also to have experienced

¹⁵

Joy P. Guilford, Fundamental Statistics in Psychology and Education (third edition; New York: McGraw-Hill Book Company, Inc., 1956), 281.

frustration, for on the questionnaire itself they either suggested the need for rephrasing certain problems to eliminate obvious bias before research was possible, altered the wording of some problems, or made other markings. In all, six respondents omitted a total of thirteen ratings, of which perhaps seven were oversights, but with one respondent crossing out and omitting to answer six problems. Five respondents did not use the rating Very Unsuitable at all, while two others did not use the rating Unsuitable.

Part of the frustration could perhaps have been avoided by the use of four ratings instead of five, i.e. by having combined Very Unsuitable with Unsuitable. Perhaps too, the addition of the following paragraph to the directions to respondents might have clarified the criterion "suitability for research".

The criterion "suitability for research" is meant to be the extent to which research would seem to the respondent to be able to contribute to the solution of these problems. The possibility of research's being conducted on a given problem would be a necessary but not a sufficient condition for satisfying this criterion.

However, it is doubtful that even with these improvements in the questionnaire the task would have been anything but difficult. In assigning a problem to a particular rating the respondent, in effect, had five difficult jobs to perform:

1. To think about the problem, its ramifications, and relevant variables.
2. To visualize the situation with the problem solved.
3. To project means of solution.
4. To create tentative research designs, hypotheses, and possible findings.

5. To assess the contribution research could make towards the problem's solution.

This assumed a wide knowledge of the whole field of educational administration in Canada, a familiarity with many types of research, experience in solving educational problems, and especially with using research to help solve them.

Assessing the validity of the present instrument is not a question of whether it gauges exactly the suitability of eighty problems for research but rather whether the opinions it collects can in any way steer research workers into the most profitable areas of endeavour. The claim to validity made here is that the best opinions in the field have, through the Research Expert Questionnaire, been enabled to make worthwhile suggestions to research workers. The significant reliability coefficients indicate the clarity of these suggestions, the sample indicates the wealth of their source, and the findings in Chapter V the specifics of their advice.

Suggestions as to Type of Research: Reliability

For each problem which the respondent rated Suitable, Very Suitable and perhaps Difficult to Decide, he had been invited to select one or more of the following as types of research that might be carried out -- Survey, Experimental, Historical, or Philosophical research.

It was decided to secure some indication of the reliability of these suggestions by comparing the original with the retest returns of the three respondents for whom these data were available. For the

categories Survey, Experimental and Philosophical it was possible to compute phi coefficients.¹⁶ Their levels of significance were computed by conversion to chi square. As shown in Table IX, phi coefficients for both Survey and Philosophical research were found not to reach the .05 level of significance, whereas for Experimental research they were significant in two cases at the .001 level and in the third at the .05 level.

Because of the presence of ciphers in the data, significance levels for Historical research were calculated by direct probability and, as indicated in Table X, found to be considerably better than .001.

The above calculations were based on the total number of problems for which a respondent had made at least one suggestion as to the type of research. Calculations similar to these were made using as N the number of items rated Suitable or Very Suitable on both test and re-test, omitting suggestions made for those rated Difficult to Decide. The results were similar to those mentioned above. Coefficients for neither Survey nor Philosophical research were found to reach the .05 level of significance, whereas Historical in the three cases exceeded the .001 level, and in two cases Experimental research did likewise, although in one case it was not significant even at the .05 level.

The sample of three thus provides indications that, unlike suggestions for Survey or Philosophical research, those for Historical

¹⁶

Ibid., 311.

TABLE IX

TEST-RETEST RELIABILITIES OF SUGGESTIONS FOR SURVEY,
EXPERIMENTAL AND PHILOSOPHICAL RESEARCH

Respondent	Number of problems for which this respondent suggested at least one type of research in either test or retest	Number of problems for which respondent suggested this particular type of research				Phi Coefficient	Level of Significance of Coefficient
		in both test and retest	in neither test nor retest	in test but not in retest	in retest but not in test		
<u>Survey Research</u>							
X	49	22	9	10	8	.21	.15
Y	66	19	12	9	26	.01	.97
Z	68	16	20	18	14	.06	.64
<u>Experimental Research</u>							
X	49	30	10	6	3	.52	.001
Y	66	24	25	6	11	.49	.001
Z	68	13	29	23	3	.28	.05
<u>Philosophical Research</u>							
X	49	3	31	8	7	.03	.83
Y	66	6	35	11	14	.06	.62
Z	68	6	44	9	9	.23	.06

Note: Levels of significance of phi coefficients were obtained by converting each to chi square and interpolating from tables of the latter.

TABLE X
TEST-RETEST RELIABILITY OF SUGGESTIONS FOR
HISTORICAL RESEARCH

Respondent	Number of problems for which this respondent suggested at least one type of research in either test or retest	Number of problems for which respondent suggested Historical research				Level of Significance of Association
		in both test and retest	in neither test nor retest	in test but not in retest	in retest but not in test	
X	49	0	43	6	0	.001
Y	66	0	60	5	1	.001
Z	68	0	63	0	5	.001

Note: Levels of significance of association between test and retest suggestions were, for Historical research, calculated, because of ciphers in the data, not through phi coefficients, but by direct probabilities.

and Experimental research possessed stability over time, and perhaps represent the relatively fixed opinion of the respondents. However, a word of caution is in order against too conservative an interpretation of the value of these suggestions. Since many of the problems embraced wide rather than narrow areas of concern, the low reliabilities may well be due to a respondent's seeing one or two types of research possible when he first completed his questionnaire, but conjecturing perhaps one or two different types as being feasible the second time. All three or four types may very well be worthwhile suggestions.

Suggestions as to Type of Research: Validity

The question here with respect to validity is to what extent the answers to this part of the Research Expert Questionnaire can be considered as worthwhile suggestions for the type of research, if any, that can profitably be conducted in the various problem areas.

Several factors are noteworthy. First, as the discussion on reliability pointed out, the indications are that little reliance can be placed on the suggestions for Survey or Philosophical research. Moreover, while it is obviously difficult to set up four clearly-defined categories to embrace all research in educational administration, it is even more of a problem to assign a piece of research unequivocally to one of these four categories, especially when it has not been carried out, but rather is an imaginary, ephemeral study conceived by the respondent in order to complete the questionnaire. Again, the

everyday frame of reference of at least some of the respondents was quite different from the four established categories. Two omitted Philosophical research, two others omitted Historical research, and another both types.

However, bearing in mind that the purpose of this part of the Research Expert Questionnaire was merely to secure suggestions from research experts, the pertinent findings that are reported in Chapter V may, particularly for Experimental and Historical research, be considered helpful.

CHAPTER IV

PROBLEMS SUGGESTED AS CRUCIAL

This chapter reports and analyzes the responses made by eighty-eight superintendents, inspectors, and professors of education to the first questionnaire. While the major function of that survey was to provide some of the data for the construction of a list of problems crucial to educational administration in Canada, the responses to it bear examination in their own right, and have therefore been reported in detail here. They indicate the spontaneous concerns of a large group of educational leaders, provide glimpses into their aspirations for education, the obstacles that confront them, their modes of thinking. The discussion of these data enable comparisons to be made with three somewhat similar United States studies. Also, when compared with the findings of Chapter VI, they indicate that data gathered vary with the instrument used, that different findings sometimes emerge from structured as opposed to open-ended questionnaires. Again, where the findings from the two instruments are similar, the conclusions based on them are stronger. Details concerning the composition of the samples of respondents, and of the procedure by which these opinions were gathered have already been set out in Section I of Chapter III. Here, there will be presented, grouped under appropriate headings, the problems suggested, together with comparisons among problem areas, and, later on, with those concerns pointed up by three studies reviewed in Chapter II.

It is suggested that the reader who is interested only in the main stream of this report -- the establishment of research priorities -- scan this chapter but briefly, or perhaps omit it altogether.

I. PROBLEMS SUGGESTED BY RESPONDENTS

Table XI shows the number of respondents mentioning each of eight major problem areas--Obtaining and Improving Staff; Determining what to Teach; Dividing and Co-ordinating Responsibility; Organizing Pupils, Staff, Boards; Finances and Plant; Teaching Methods and Aids; Research and Theory; and Guidance. Tables XIII-XX set forth the number of respondents mentioning various aspects of these problem areas. These are the same problem areas used as a rationale for the eighty problems underlying the CPEAC Questionnaire and the Research Expert Questionnaire discussed in chapters V and VI. The similarity between the wording of the problems shown in Table XXII and the sub-headings of Tables XIII-XX is readily apparent, and rightfully so, since the suggestions underlying the tables were one of the two sources from which the list of problems was compiled.

II. SIGNIFICANT DIFFERENCES BETWEEN GROUPS

Table XI indicates that a number of statistically significant differences were found between the proportions of respondents mentioning the various problem areas. It shows, for example, that the proportion of respondents mentioning the problem area Obtaining and Improving Staff, while not significantly different from that mentioning

Determining What to Teach, and only at the .07 level from Dividing and Co-ordinating Responsibility, was significantly different, beyond the .001 level, from the number of respondents mentioning any of the other five problem areas.

Here we are testing the significance of the difference between two correlated proportions. In comparing the proportion of respondents mentioning Obtaining and Improving Staff with that mentioning Determining What to Teach, we have fifty of the eighty-eight respondents suggesting the former and forty-eight the latter, with twenty-two mentioning both. The statistical problem is whether the proportion of respondents mentioning the first area but not the second is significantly different from that mentioning the second but not the first. The null hypothesis, which says there exists no difference other than that which can be expected through chance, can be tested by the formula $\chi^2 = \frac{(A - D)^2}{A + D}$ where A denotes the number mentioning the first problem area but not the second, and D the number of respondents mentioning the second but not the first. The obtained value of χ^2 is then checked with tables of critical values of chi square to find the probability under the null hypothesis that χ^2 exceeds or is equal to chi square.^{1,2}

1

George A. Ferguson, Statistical Analysis in Psychology and Education (New York: McGraw-Hill Book Company, Inc., 1959), 148-50, 169-71.

2

Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), 63-67.

TABLE XI

RESPONDENTS MENTIONING EACH OF EIGHT PROBLEM AREAS, AND THE PROBABILITIES
THAT DIFFERENCES IN FREQUENCY OF MENTION ARE DUE TO CHANCE

Problem Area	Number of Respondents Mentioning						
	DWT	DCR	OPSB	FP	TMA	RT	G
Obtaining and Improving Staff (OIS)	50 .79 (22)	.07 (26)	.001 (20)	.001 (16)	.001 (13)	.001 (12)	.001 (7)
Determining What to Teach (DWT)	48	.22 (17)	.01 (18)	.01 (12)	.001 (15)	.001 (8)	.001 (11)
Dividing and Co-ordinating Responsibility (DCR)	39		.08 (18)	.05 (20)	.05 (10)	.01 (10)	.001 (4)
Organizing Pupils, Staff, Boards (OPSB)	29			.75 (9)	.29 (10)	.13 (7)	.01 (8)
Finances and Plant (FP)	27				.52 (6)	.22 (7)	.05 (4)
Teaching Methods and Aids (TMA)	23					.58 (7)	.07 (3)
Research and Theory (RT)	20						.22 (0)
Guidance (G)	13						

Note: Probabilities less than .05 are shown only at whichever of the .01 or .001 levels was reached. Numbers in parentheses refer to numbers of respondents mentioning both problem areas. These figures are required for the calculation of probabilities.

While the results of these calculations are set forth in detail in Table XI, their importance is, perhaps, shown more clearly in Table XII. This table indicates that the eight problem areas can be arranged into four groups, the problems in each of which differ at levels ranging from .001 to .22 from problems outside, with respect to the frequency with which they were mentioned by respondents. Thus, it can be seen that the problem areas Obtaining and Improving Staff, and Determining What to Teach form the first group, Dividing and Co-ordinating Responsibility the second, Guidance the last, and all other areas the third. Throughout the remainder of this chapter, reference will from time to time be made to the significances of differences between proportions of respondents mentioning various problem areas.³

III. OBTAINING AND IMPROVING STAFF

The problem area most frequently suggested as crucial was that of Obtaining and Improving Staff. The proportion of respondents mentioning it can be considered as significantly greater than the proportions mentioning all other areas except Determining What to

³Not directly pertaining to the study but still rather interesting was the question whether there were any significant tendencies for respondents mentioning a particular area to mention other specific areas. Contingency coefficients were computed and, as shown in Appendix Q, found to be significant at the .05 level in five of the possible twenty-eight combinations: OIS and DWT, DWT and G, DCR and OPSB, DCR and FP (probability less than .001), and OPSB and G.

TABLE XII

PROBLEM AREAS ARRANGED IN GROUPS THAT DIFFER SIGNIFICANTLY
IN FREQUENCY OF MENTION BY RESPONDENTS

Problem Area	Group
Obtaining and Improving Staff; Determining What to Teach	1
Dividing and Co-ordinating Responsibility	2
Organizing Pupils, Staff, Boards; Finances and Plant; Teaching Methods and Aids; Research and Theory	3
Guidance	4

Note: Statistical differences which provide the basis for the separation of problem areas into groups are at the .001, .01 and .05 levels, according to Table XI, except in five cases -- two at .07, one at .08, and two at .22.

Teach, and, perhaps, Dividing and Co-ordinating Responsibility.

In a general way, the most crucial problem facing persons in positions of leadership in school systems was, as Respondent 15 succinctly put it:

The provision of a stable staff of well-qualified persons who operate in a really professional way.

More specifically, as the details of Table XIII show, five subsidiary areas of concern were reported, four having to do with teachers -- getting good classroom teachers, teacher training, encouraging professional growth, defining and measuring competence, --and the fifth with leadership staff in general.

Getting Good Teachers

One quarter of all respondents noted the difficulty of getting good teachers, stressing the problem of attracting sufficient recruits and desirable recruits particularly for high school, special or remedial classes, rural areas, and technical education. Mentioned also were the related matters of adequate remuneration, merit pay, status, improving methods of selection, establishing criteria for predicting teaching success, and removing from the classroom the obviously incompetent teacher.

Teacher Training

Concerns with teacher training were directed at the relative merits of teachers' colleges and universities, at internship programs, the improvement of practice-teaching, the need for more years of training.

TABLE XIII

PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS MENTIONING
ASPECTS OF OBTAINING AND IMPROVING STAFF

Aspect	Per Cent
CLASSROOM TEACHERS	45
Getting Good Teachers	25
Recruitment	17
Selection	9
Improved financial position	6
Removing the obviously incompetent.	4
Teacher Training	17
Encouraging Professional Growth.	17
Defining and Measuring Competence	14
LEADERSHIP STAFF	16
TOTAL MENTIONING OBTAINING AND IMPROVING STAFF	57

The problem of determining just what training should be given was seen to be crucial by several, including Respondent 46:

In my opinion extensive research and investigation is needed to determine the amount and type of training required, reliable methods of selecting candidates for training, the amount and type of specialization desirable for elementary school teachers, etc.

Encouraging Professional Growth

More than one respondent in six felt the urgency of encouraging the continuous professional growth of teachers, through supervision, refresher courses, reading, and in-service education generally, so that they would become both qualified for, and willing to accept, more freedom and more responsibility for implementing the goals of education.

Strong pleas were made for more professionalism in teaching.

Respondent 38 emphasized:

. . . The difficulty of getting teachers, particularly high-school teachers, to realize that it is their duty to be concerned about the total education of the student and not just the teaching of textbook information.

The elementary school too, according to Respondent 46, needed teachers with a more professional attitude:

Also, a large percentage of our classrooms are staffed by young girls and married women who intend to teach for only a limited period of time with the result that they lack a professional approach to their work.

Then, suggested Respondent 87:

[There] is the problem of getting teachers to lean less upon provincial authority. This is really the issue of professionalism.

Very pertinent to the discussion of professionalism is this statement by Respondent 34:

The most crucial question involves centralization of power in the

Departments of Education and school boards. . . . The trouble with Canadian Education is that we control, prescribe, direct teachers . . . too much. Too many people are allowed to interfere with teachers.

Teachers are also not sufficiently well-trained. They need to be placed in teaching situations in schools where they are forced to think for themselves, and so continue their own training. They must seek information, not be told. . . .

Until we stop administering schools from above, it is likely that teachers won't grow and Education will lag. Those who pay the piper should not call the tune in Education. If you can solve this problem of the degree to which more power and freedom can be given to teachers, you have solved the biggest educational issue in Canada and relieved administrators of a great number of headaches about trivialities.

This respondent called for experiments to investigate the hypothesis that better teaching would result if some power were removed from Departments, superintendents and school boards, and given to teachers and principals. More specifically:

Does increased trust and responsibility loaded on teachers cause them (a) to be more enthusiastic (b) more inclined to think for themselves (c) more ready to adopt new ideas (d) more ready to adjust to the needs and abilities of children ?

Defining and Measuring Competence

Underlying the whole area Obtaining and Improving Staff are two questions considered fundamental and extremely knotty by about one respondent in seven : how to define competence in teaching, and, how to measure it. Respondents mentioned the difficulty of "Measuring teacher competence in the classroom," the cruciality of "Developing sound bases for rating teacher performance," and asked, "What qualities indicate an adequate teaching personality?"

Respondent 30 points out some serious implications of the problem:

I believe adequate staffing is the most critical problem in our schools. The problem is critical now and will soon become desperate. . . .

Central to the problem is this question: is it essential that every school class be taught by a degreed, certificated teacher? If so, how is this staggering cost to be met, where are the thousands of college graduates to be found, and how are they to be persuaded to enter the teaching profession? If not essential, or if beyond our financial capabilities, how can we so organize our school system that a minority of degreed teachers may control and direct the program of the majority of teachers without a degree without impairing the quality of education? . . .

As we consider the above questions, we must remember the need not merely to maintain our present standards, but also to improve them to meet the challenge of the future.

Leadership Staff

Inadequate leadership was the concern of sixteen per cent of respondents. Several stressed the importance of properly identifying, recruiting, selecting, training, and apprenticing leaders. While consideration focused chiefly on principals and superintendents, weaknesses were mentioned in leadership at all levels including that given by deputy ministers, teachers, and university educators. One respondent called for public acceptance of the professional educational leader, another for the "exercise of leadership based on both experience and research findings," a third lamented the "trend in secondary schools in which principals tend to become administrators first and educators last," while Respondent 56 warned of:

. . . the prevalence, widespread or perhaps universal, of a strictly materialist educational psychology. . . . [which] makes an administrator unsympathetic towards the arts, towards religious education, towards the development of the imagination, even towards the art of thinking, since all of these are manifestations of the conscious life Many problems could be resolved if the necessary changes were made in the minds of the administrators.

IV. DETERMINING WHAT TO TEACH

Second in frequency of mention by respondents, a position which, although not differing significantly from first or perhaps third, is statistically different in frequency of mention beyond at least the .01 level from all other problem areas, is Determining What to Teach. Two divisions of this area were pointed up -- problems associated with the educational needs of society and individuals, and those with determining the curriculum.

Society's Needs

Cultural change including value change, vocational training in an era of technological advance, geographic mobility of population, the international conflict of ideologies, and the management of the powers of human annihilation are aspects, mentioned by respondents, of the challenge to educational administration by twentieth-century society.

Life in a changing, technical world . Interesting analyses of the implications for education of the problems posed by modern living are the comments by three respondents.

Respondent 50:

I would consider crucial the task of preparing our present-day pupils adequately to cope with the conditions they will find as adults. As we all know, this is a period in which the rate of change in the civilized world is fantastic as compared with any previous period of the world's history. A child adequately prepared to meet today's conditions will probably find himself very poorly prepared for conditions twenty years hence. Although lip service is paid to the importance of educating for a changing world, a serious problem confronts the educator in getting appropriate action in the classrooms, in the school board meetings, and in the homes from which the children come.

Respondent 84:

. . . there are men, civilians as well as military, who can speak of an atomic holocaust in detached voices, without any hint of horror . . . only education, true education, combined with an honest implementation of fundamental religious principles can turn us from the mad goal towards which we appear to be headed.

Respondent 10:

As I see it, there several forces now at work in our society which promise trouble for the future and which, to a certain extent can be counteracted in the schools.

The first is the growing degree of automation, one effect of which will be a greater amount of leisure time. Another is the quick technological change which characterizes our industry. Both of these threaten the security of workers in their jobs. And these occur simultaneously with an attack on our Western culture and way of life such as we have never seen before.

The problem, then, seems to be to determine what kind of training schools must give so that our students may be reasonably sure of economic security and able to meet the challenge of ideologies which are hostile to our democratic philosophy.

More college education. Perhaps closely related to the foregoing is the claim by four per cent of respondents that more of the students who have outstanding scholastic ability should enter university.

More inter-provincial co-ordination. Several suggested that increasing population movement necessitated a greater uniformity throughout the various provinces in such matters as curriculum, university standards, and teacher certification.

Critical thinking. As Table XIV indicates, four per cent of respondents mentioned the school's responsibility for helping fill society's need for people who think critically, and who are self-reliant.

Religious education. A similar percentage stressed the importance

TABLE XIV

PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS MENTIONING
ASPECTS OF DETERMINING WHAT TO TEACH

Aspect	Per Cent
SOCIETY'S EDUCATIONAL NEEDS	30
Preparation for Life in a Changing World . . .	11
Technical Training	10
Enabling Everyone with Ability to Go to University	4
More Inter-provincial Co-ordination in Canadian Education	6
Critical Thinking	4
Religious Growth	3
THE CURRICULUM	47
Need for Sound Underlying Philosophy	8
Determining the Tasks of the School	10
Selecting and Revising Content	11
Individual Differences	31
TOTAL MENTIONING DETERMINING WHAT TO TEACH	55

of religious growth. Respondent 24 saw the basic problem as:

How, in our pluralist society, the children of Christian parents may be assured of an education in our schools which is definitely Christian, or, at the very least, definitely protected from the atheistic and materialist trends current in so much of modern teaching, as exemplified in text books and courses of study. (Example, a history text which professes to deal with the story of the establishment of the Christian church, and which makes no reference to the Resurrection!)

It seems to me that, in our fear of denominationalism, we are not merely throwing out the baby along with the dirty bath-water, but are on the point of throwing out the bath too. We cannot maintain a system of Christian ethics without the support of Christian belief.

Another respondent emphasized the teaching of basic religious principles rather than sectarian interpretation and ritual.

The Curriculum

The forty-seven per cent of respondents who considered determining the curriculum important were concerned with four major facets of the problem: building the curriculum on sound educational philosophy, determining the tasks of the school, selecting and revising the content of courses, and adapting the curriculum to individual differences.

The need for a sound philosophy underlying the curriculum. One person was "aghast at the lack of philosophy in Canadian education." Another suggested that the basic problem today was, "In education, where are we going, and why?" After thirty years on the field, Respondent 17 asked:

Should we strive so to educate the masses? We have in this province been guilty of indicating to the public, "Send the pupils to the schools and we will strive to fulfill your ambitions for the child."

A fourth felt that teachers, parents, and the public generally should understand the philosophy -- the basic aims and objectives-- underlying the curriculum. Another suggested as crucial the "stabilizing in concrete terms of the purposes of education."

Determining the tasks of the school. A question vital to many educators is the proper division of the responsibilities for the total education of the child between the school and other agencies. Perhaps the school is attempting too much, perhaps neglecting its main functions. As respondent 1 aptly phrased it:

With expansion of human knowledge, our improved understanding of how children learn, and pressures from a variety of sources to include more and more in the curriculum, the need for the clarification of principles and procedures for the selection of content is almost self-evident. School workers need to be guided in their decisions about what the schools should teach by something other than tradition, practice elsewhere, and/or the whims and fancies of various sub-publics.

Selecting and revising content. Having determined the school's tasks there is still the problem of selecting content and procedures to implement them. The last quotation implied both the difficulty and the importance of curriculum building. Other respondents contended that needed changes were taking place much too slowly, one suggesting the need for more personnel and more-adequate personnel in this field.

Respondent 46:

The situation seems to demand the full-time employment of a greater number of people trained in curriculum development and much more research by teams composed of educationists, social scientists, and experts from industry.

Strong cases were made for necessary curriculum revision in the

light of changing social and economic conditions, especially in high schools where larger percentages of the youth population were attending for longer periods of time.

Adjusting curricula for individual differences. Almost one respondent in three suggested, in effect, that social and inherited differences in pupils had serious implications for school, especially high-school curricula. Concern was expressed for the gifted, the retarded, the physically and the emotionally handicapped, as well as for the average student, and dealt largely with identifying these people, determining whether to segregate them, devising suitable programs for them, and providing appropriately-trained teachers. Several respondents mentioned the special problems encountered in providing adequate educational services to children in rural areas, while two others underlined the difficulty of teaching children in a language other than their mother tongue.

Mentioned time and again by respondents were students and their parents who didn't seem to appreciate the school, who were characterized by a "lack of awareness . . . of the necessity for school completion."

Respondent 2:

. . . I believe that the most crucial problem . . . is the education of the under-privileged. These people form a large per cent of our population and live in squalor and general poverty. If we are to raise their standard of living, then we have to educate them to the extent that they become self-reliant. Too many of these people rely on the powers-that-be to provide for them. . . . In an area such as mine, there are numbers of children who are not being educated. Those who do attend school at intervals get only a

smattering of education because they just can't seem to adapt themselves to our curriculum.

These respondents are saying what Hollingshead observed some years ago, namely that a basic problem in education is how the school can cater to the children of the lower classes.⁴ But they were also concerned with how, and to what extent, the school system could solve this social problem some of whose manifestations appeared to be drop-outs, unemployment, apathy, and chronic dependency.

Many respondents felt the need especially in high school but also in the elementary school for a complete revision of programs to provide "not only for those few who will enter university but also for the needs of the majority."

Some, including Respondent 81, saw the problem essentially as preparing the most intelligent students for university with "the provision of a strong, basic academic and/or technical training program for those of our students who have not the potentiality for university work."

However, Respondent 71 cautioned against the trend to prescribe vocational training for all but the most intelligent. He questioned the correspondence between training offered and jobs available, suggested the need for follow-up studies of the use made by graduates of their high-school technical training, and asked for more evidence for offering such training to "any specific group of students of a certain ability

⁴

August B. Hollingshead, Elmtown's Youth (New York: John Wiley & Sons, Inc., 1949), especially chapter thirteen.

rating."

Respondent 19 pressed for "more flexibility in university entrance requirements and recognition that discipline of the mind can be given in an interest field as well as in a distasteful field of study."

The consensus was that there existed a basic problem "in providing for individual differences in aptitude and interest at the secondary school level."

V. DIVIDING AND CO-ORDINATING RESPONSIBILITY

In this section are considered the problems associated with the proper division of responsibility among the many groups and individuals involved with education, and with so co-ordinating their efforts that the resulting administrative structure will be both harmonious and effective. Forty-four per cent of the total respondents suggested this area as crucial, a proportion significantly greater than those mentioning finances, teaching methods, research, or guidance.

Although both aspects of this problem area are closely related, for purposes of analysis a separation will be made. First, there will be considered problems about dividing responsibility and then those about harmony or public relations.

Dividing Responsibility

Local-provincial control. One-eighth of all respondents urged a proper division of control between province and school boards. Some called for more local control, especially over the "interna," while

TABLE XV

PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS MENTIONING ASPECTS
OF DIVIDING AND CO-ORDINATING RESPONSIBILITY

Aspect	Per Cent
DIVISION OF EDUCATIONAL RESPONSIBILITY	27
Local-Provincial Control	13
Municipal-Board Responsibility	2
Federal Responsibility	1
Professional-Lay Responsibility	6
The Role of the Principal.	6
The Role of the Superintendent	5
Who Should Supervise ?	8
PUBLIC RELATIONS	24
Creating Greater Public Confidence in the School System	18
Board - Staff Relations	3
Inter-denominational Co-operation	3
Co-operation between Levels of Education.	2
TOTAL MENTIONING DIVIDING AND CO-ORDINATING RESPONSIBILITY	44

others questioned the adequacy of, and perhaps the need for, local authorities in education. Financial troubles were seen as compounding the issue, for, with educational services expanding, local authorities, relying on that increasingly inadequate basis of finance, the property tax, become increasingly unable to cope with rising costs; and more provincial support, even in the form of equalization measures, seems to imply more provincial control.

Other divisions of governmental responsibility for education.

Two respondents mentioned the problem of securing a proper relationship, with respect to education, between school boards and municipal authorities. Another suggested that the federal government had some responsibility for education since it was a means, more effective than armaments, of defending democracy.

Professional-lay responsibility. Five respondents mentioned the division of responsibility between lay persons, especially school boards, and professional educators as an area of crucial concern.

Respondent 61 called for:

. . . the re-emphasis of the integrity of the individual acting in his area of competency as opposed to the "organization man" of Whyte's depiction who . . . emphasizes shrewdness and conformity [There needs to be a] clarification of the roles played by the professional educator, the school board as a legal entity, and the "public". For responsibility one must have commensurate authority and freedom from excessive interference by "publics".

Respondent 33 suggested:

The most crucial educational problem . . . is the relationship of lay school boards, having all power in their hands derived from legislation, with educational experts who have only the power which

might be delegated to them by school boards.

Respondent 87 mentioned that it was important:

. . . to secure for teachers more freedom in texts, teaching methods and school programs, consonant with the aims of education as accepted by the board.

Reference has already been made to other statements calling for greater teacher professionalism.

The role of the principal. Several respondents considered it very important for the principal to be the instructional leader of his school. More principals must be prepared to accept this role and more boards willing to allow them sufficient time free from teaching to perform it effectively.

The role of the superintendent. Four people were concerned about the changes that were taking place in the superintendency. While one welcomed the appointment by boards of a professional educator as their executive officer, another was against the tendency of superintendents to drift away from concern with classroom instruction toward the area of financial and book-keeping problems.

Who should be responsible for supervision ? Seven respondents divided five ways on this issue of who should be responsible for supervision. The principal should be responsible for classroom visitation and the supervision of his own school; the superintendent must not be divorced from instructional leadership; the teacher must have more professional freedom; the principal and his staff must

together be responsible; boards were tending increasingly to appoint special supervisors of instruction. Perhaps all these views are to some extent reconcilable. It was clearly evident, first, that serious thinking was being done about this problem and, secondly, that even more was needed before it could be resolved to everyone's satisfaction.

Harmonious Relationships

Creating greater public confidence in the school system. Typical of the sixteen who emphasized the need for creating greater public confidence in the school system is this statement by Respondent 3:

It seems to me that one of the most urgent needs of education today is that of creating intelligent public understanding of the schools. One is struck time and again, when school problems are debated, by the fact that so much thinking is based on misconceptions and wrong information, or on complete lack of understanding of what the schools are trying to do. Since public support is essential if schools are to be adequately financed, etc., this matter of getting the public well and intelligently informed is a basic problem.

Respondents suggested that the public must be brought:

- (a) to understand the philosophy of the school and the educational needs of society;
- (b) "to be ready to recognize and to accept the real teacher;"
- (c) to appreciate the role of the educational leader;
- (d) "to honestly face the fact that an education is absolutely essential," rather than merely to pay verbal homage to it, as is often the case now;
- (e) to encourage their children to remain in school;
- (f) to be "eager to provide the means to ensure the best education

possible and . . . pay for the education as willingly as it pays for luxuries." It was felt that stronger public support was the key to greater government effort.

"The public," as Respondent 78 phrased it, "are likely to be for such things as they believe worthwhile." The problem was to have the public believe worthwhile the things for which educators were striving.

Respondent 57 suggested a public relations program:

. . . to develop a great awareness among the public of the steadily growing significance of education in our society. An adult education program is needed, backed by the best heads in science, humanities, business and industry, to shatter old concepts of what "good" education is, and to build new concepts.

Respondent 8 suggested that the lack of communication between home and school as a result of the large administrative unit would have to be remedied. Another felt that the whole problem of public confidence would be greatly eased, once the schools were staffed by well-qualified professionals.

Perhaps, as Respondent 87 contended, the first step in building public confidence was to be honest about the shortcomings of the school system:

Most immediately crucial is the problem of public confidence in the public school system as this is revealed in criticism of achievement in the 3 R's. Educators are going to have to do a thorough research job in the next 15-20 years in order to show whether pupils are achieving more or less than they used to five or ten or fifteen years before. We are going to have to be honest with ourselves and with the public about the need for such evidence in each area or province. At the moment we are brushing off criticism in all kinds of ways -- none of them really valid. Until good solid research is done and the issue of the 3 R's straightened out, some of the real problems in education will continue to be obscured.

Other sensitive areas in public relations. Three respondents viewed with alarm the nasty situations which sometimes develop between school boards and their staffs over salary scales or "the niggardly approach to school equipment and supplies." One from each of three provinces desired more interdenominational co-operation in education, especially with respect to high school education in the smaller centres. One suggested their fusing at certain levels into one system. Two others considered crucial the problem of religious and other minority groups "exerting a great, perhaps too great, influence over schools."

One lamented the differences in status between elementary and secondary teachers and called for a "unified profession and the concept of education as a continuous process from kindergarten to university." Another pointed up the need for co-operation between the university and the field in the training of persons for administrative positions.

Summary

In this area of Dividing and Co-ordinating Responsibility, respondents were concerned chiefly with the proper division of responsibility between local and provincial authorities, between professional educators and the public's representatives, with defining the roles of principal and superintendent, with the question of assigning responsibility for instruction and its supervision. The need was seen for greater public confidence in the schools, for more interdenominational co-operation in education, for better relations between school boards and their staffs, and for more harmony generally.

VI. ORGANIZING PUPILS, STAFF, BOARDS

The proportion of respondents mentioning the area, Organizing Pupils, Staff, Boards, as crucial is significantly greater than that mentioning Guidance, but significantly smaller than the proportion suggesting Obtaining and Improving Staff, Determining What to Teach, and, at the .08 level, from Dividing and Co-ordinating Responsibility.

Under this heading will be presented respondents' concerns for new ideas in staff utilization, modifying the grade system, homogeneous grouping, the optimum sizes of schools, rural centralization, the merits of junior high schools, and for improving school-board operation.

Evaluating New Ideas in Utilizing Staff

Six respondents felt that it was crucial to have assessed the potential merit of seemingly promising ideas concerning the efficient use of teachers, such as allowing the ratio of pupils to teacher to vary with the type of lesson -- lecture, television viewing, group discussion, individual instruction. Also of concern was team teaching, especially where team membership consisted of workers with differing degrees and types of competency, from master teacher through skillful lecturer to uncertificated teacher aide, each performing a different function.

Modifying the Grade System

Five respondents, alluding successively to the necessity of some modification in the grade structure, spoke of "implementing a theory of continuous progress in the elementary school," questioned the lock-

TABLE XVI

PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS MENTIONING
ASPECTS OF ORGANIZING PUPILS, STAFF, BOARDS

Aspect	Per Cent
Evaluating New Ideas in Utilizing Staff	7
Modifying the Grade System	6
Homogeneous Grouping	3
Optimum Size of Schools	6
Rural Centralization	6
Merits of Junior High Schools	1
Improving School Board Operation.	9
TOTAL MENTIONING ORGANIZING PUPILS, STAFF, BOARDS	33

step grade system with its inherent difficulties of promotion and articulation, referred to the ungraded school, or proposed the need for comparative evaluation of graded and non-graded school systems.

Homogeneous Grouping

In view of the task of "providing the best education for the total school population," three respondents emphasized the importance of finding out the merits of streaming as a means of catering to individual differences.

Optimum Sizes of Schools

Five respondents expressed concern about schools too large or too small, suggesting the importance for research to establish optimum sizes, especially for secondary schools.

Rural Centralization

Five, including three of those in the last section, stressed the problems of rural education -- the inability of one-roomed schools and small rural systems to provide an adequate education especially for gifted or backward students, the importance of establishing how far children can be transported to high school, the difficulty of having both centralization and close contact with the home.

The Merits of Junior High Schools

One respondent desired the evaluation of the success in Canada of the junior high school.

Improving School Board Operation

According to eight respondents, most crucial was the need for improvement in school boards -- for members to be more carefully selected, more aware of the needs of modern education, but especially for boards to concentrate on the making of policy, the stating of local aims, and not leaving these to the secretary or to the superintendent. On the other hand, the board should delegate executive authority, as well as the time and facilities to carry it out, to the superintendent or principal.

Respondent 57:

[It is crucial] To raise the concept of lay administrators (trustees) from its present level to a higher one in which they recognize (a) that administration cannot be conducted by persons without formal preparation unless it is defined as consisting of routine tasks only. This lack of insight restricts and blocks all other aspects of advancement in the administration of education. (b) that school boards need their own qualified, professional chief executive.

VII. FINANCES AND PLANT

Thirty-one per cent of the eighty-eight respondents considered finance a crucial problem area. Twenty-two per cent mentioned specifically the need for more money.

Traditional methods of support -- local assessment on real property, and present provincial grant structures-- were declared inadequate to meet the costs of education which, with improved school services and more pupils, were rising. Seven respondents thought that low teachers' salaries were a serious problem. One suggested that concern with finances was preventing administrative personnel from doing their

main duty of supervising instruction. Two desired more money for educational research. Five stressed that to get people in general and particularly governments to provide adequate funds, better public relations and understanding were prerequisite. Respondent 63 pointed out:

. . . the only changes which are readily made in our educational systems are those which those at policy-making level feel can be made with little expenditure of effort, time, and particularly money -- which comes from the public purse.

Five others noted the apparent relationship between financing and controlling, and suggested that perhaps the two should not go together.

Four respondents were convinced that federal aid was necessary.

The crucial problem for Respondent 47 was essentially:

How can adequate funds be provided to Provincial Educational Systems without undermining provincial jurisdiction for education as outlined in the British North America Act ?

Partially summarizing some of the above concerns are these remarks by Respondent 52:

I consider the most pressing problem . . . to be finances. Educational costs have risen to the point where it is almost impossible to meet school costs through direct taxation and provincial grants. Perhaps federal aid and/or a system of indirect taxation might help. . . .

School Plant

Three respondents mentioned inadequacies in school accommodation, equipment and supplies.

VIII. TEACHING METHODS AND AIDS

Twenty-six per cent of the respondents discerned important

TABLE XVII

PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS MENTIONING
ASPECTS OF FINANCES AND PLANT

Aspect	Per Cent
FINANCES	31
Need for More Money	22
Higher Teachers' Salaries	8
Financing and Controlling	6
Federal Aid	5
Public Relations and Finance.	6
More Money for Research	2
SCHOOL PLANT INADEQUACIES.	3
TOTAL MENTIONING FINANCES AND PLANT.	31

problems in the realm of Teaching Methods and Aids, especially with respect to the new media and current classroom practice.

Evaluating New Media

Of the nine persons mentioning certain new teaching aids or "media", all were concerned with establishing their place and value, five mentioning teaching machines, four educational television, and one mentioning each of language labs. and audio-visual aids. According to Respondent 4:

There is a great need, by means of actual research, to support, modify, or disprove the claims of enthusiasts and/or sales forces regarding such modern-day marvels as teaching machines, language labs., educational television.

Developing Better Classroom Practice

Ten respondents mentioned nine aspects of the problem of developing better techniques in classroom teaching. They called for a more widespread application of the results of modern research in methodology, less rigidity in methods especially by older teachers, some means of inducing "the teacher to talk less and the children to write less," less educationally purposeless busy work, more effective use of time, less emphasis on the memorization and regurgitation of subject matter, more emphasis on the importance of effective teacher-communication, better methods of teaching reading especially in view of the frequency of poor readers even among the brighter students in intermediate and senior grades, and more effective teaching of slow learners in small schools.

TABLE XVIII
PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS MENTIONING
ASPECTS OF TEACHING METHODS AND AIDS

Aspect	Per Cent
EVALUATING NEW MEDIA	10
Teaching Machines6
Educational Television.5
Language Laboratories1
Audio-visual Aids1
DEVELOPING BETTER CLASSROOM PRACTICE	11
NEED FOR BETTER TEXTS	2
TOTAL MENTIONING TEACHING METHODS AND AIDS	26

Other Concerns

Also mentioned were the need for better textbooks, and the difficulty of obtaining adequate teaching supplies.

IX. RESEARCH AND THEORY

The twenty respondents here were concerned with increasing the impact of research and theory on practice, with improving research facilities, and with calling for more research studies.

Increasing the Impact of Research and Theory on Practice

Several stated categorically, and the remainder of the fifteen implied, that research and theory were not having as great an impact on practice as they should.

Respondent 8 noted "the problem of applying educational research to the classroom."

Declared Respondent 72, "Some means must be devised whereby the findings of educational research may be utilized in the classrooms of our schools."

"We are," said Respondent 82, "far removed from educational centres and resource personnel; so that research findings are often late in reaching us, if they reach us at all."

"The most urgent of the many unresolved problems facing us at the moment," stated Respondent 54, "concerns the difficulty of getting good pedagogical theory into practice."

TABLE XIX

PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS MENTIONING
ASPECTS OF RESEARCH AND THEORY

Aspect	Per Cent
Increasing the Impact of Research and Theory on Practice .	15
Better Research Facilities	3
Need for More Research	15
TOTAL MENTIONING RESEARCH AND THEORY	23

Better Means for Research

Suggestions made by three respondents specified that research needed better financing, increased time, and more workers, including more with teaching experience and pedagogical training as well as scientific preparation.

Respondent 53 saw the question basically as, "How can we finance and carry through needed programs in educational research?"

The Need for More Research

Thirteen respondents considered crucial the need for more research in education, specifically with respect to seven areas: curriculum, methods, measuring competence, allocating supervisory responsibility, rural education, the changing nature of administration, public relations, and influencing.

Curriculum. Stated Respondent 1:

Research is needed to identify the factors which are associated with grade placement and to operationalize them so that they may be used in the reassignment in our graded system of both traditional content and new content.

Respondents 43 and 46, respectively, proposed research into the best way of meeting individual differences, and into the type of training a person would need to meet his obligations in the future.

Methods. In the area of methods, research studies were proposed as essential for evaluating the new media. Respondent 49 called also for, "a careful study of the use of time in the classroom to isolate and describe the factors that are common to the classrooms that are truly efficient."

Measuring Teacher Competence. Four others mentioned the importance of devising ways to measure and to predict teacher competence.

Respondent 53:

What constitutes a good teacher and good teaching, and can reliable and valid means be found to measure good teaching? Much research has recently been done to establish measures of teaching competence, . . . but there are many unsolved problems for which they have found only limited answers.

Respondent 46:

In my opinion extensive research and investigation is needed to determine the amount and type of training required, reliable methods of selecting candidates for training, the amount and type of specialization desirable for elementary school teachers, etc.

Several respondents called for research that would establish criteria for predicting success in teaching, administration, and supervision.

Allocating Supervisory Responsibility. Concerning relationships among principals, specialist supervisors, and superintendents, with respect to the supervision of instruction, Respondent 77 noted two emerging and converging trends -- the practice by boards of allowing principals more time off for supervision, and their appointment of specialist supervisors.

He emphasized:

. . . there is need for a study of the relationships which now exist -- the best practices from the standpoint of pupil progress and teacher morale. From such a study the general trends in the pattern that is developing would become more apparent. This information together with recommendations for future developments, in the light of the best literature on the subject, would, I am sure, be very beneficial to local education authorities when contemplating possible expansion in supervisory service.

Rural Education. The same respondent, expressing keen interest in rural education -- its quality, its quantity, and "the wide gap in 'equality of educational opportunity' as between rural and large urban units," -- suggested this whole area as a rich field for study.

The Changing Nature of Administration. Respondent 79 was:

. . . impressed with the need to discover more about: 1. The realities of educational administration in various kinds of setting, i.e. the tasks in a small rural area; the principalship; the city area; etc., and 2. The implications of these for the changing nature of administration . . . so we can rid ourselves of the folklore that is today educational administration.

Public Relations. Reference has already been made to Respondent 87's suggestion that as a prerequisite to good relations with the public, educators would have to be honest about criticisms concerning the teaching of the 3 R's, and sponsor research comparing the standing of contemporary pupils with those of other years.

Influencing. To attract men of the highest calibre into teaching, when high salaries have not necessarily been successful in this, Respondent 59 called for, "comparative research on what high school graduates desire in a career, and the areas in which teaching and other pursuits meet or fail to meet such criteria."

Respondent 48 wanted:

. . . research in methods of inducing teachers to use the many scientific tools available to help them understand the needs of their pupils . . . [and] into methods of stimulating principals into accepting the role of leadership in the field of supervision.

Commentary. While without doubt most of the topics proposed in this section for investigation are such that research can make worthwhile contributions to their solutions, several of the suggestions reveal a credulity, apparently widespread, that research, and research alone, can unravel the comundra of the ages, and substitute for judgment, drive, and manipulation, a method of problem solving in school administration at once aseptic, painless, and, indeed, somewhat miraculous. Perhaps research is but one of the kit of administrative tools that includes such important other pieces as philosophy, personality, experience, and effort.

X. GUIDANCE

Guidance was the least-frequently mentioned problem area. The thirteen respondents who mentioned problems related to it were concerned with improved placement, dropouts, and articulation with the university.

Placement

Under placement, respondents mentioned the problem of identifying individual differences, questioned the wisdom of restricting vocational education to those of a particular ability level, and desired the erasure of the stigma attached to vocational training.

Dropouts

The eight people who mentioned dropouts and lack of interest connected the problem with motivation, the state of the curriculum and with unemployment.

TABLE XX
PERCENTAGES OF EIGHTY-EIGHT RESPONDENTS
MENTIONING ASPECTS OF GUIDANCE

Aspect	Per Cent
Improving Pupil Placement	3
Dropouts	9
Articulation with the University	3
TOTAL MENTIONING GUIDANCE	15

Articulation with the University

Three respondents mentioned the problem of articulation of high school with university, noting high university failure rates, suggesting flexibility in entrance requirements, and suggesting a connection with university teaching procedures.

XI. COMPARISON WITH OTHER FINDINGS

Here comparisons are made between the findings set forth in this chapter and those reviewed in Chapter II.

The Coladarci Study

Before any comparison could be made with the suggestions made by the respondents of the Coladarci study as shown in Table IV, it was necessary to reorganize the data from the present investigation to show, not the percentage of respondents mentioning each problem area and its details, but the percentage of the total items mentioned referring to each problem area and details. This is shown in Table XXI. Even then no close comparison could be made, for Coladarci's sample consisted entirely of city school superintendents, he had requested problems deserving research priority as well as being crucial, and his problem areas were somewhat different.

However, even with the grossest comparisons, which are perhaps the only type possible here, three similarities have striking relevance -- the front-line positions assumed by problems of staffing and programming, and, by contrast, the slight stress on finance.

TABLE XXI

PERCENTAGES OF TOTAL ITEMS SUGGESTED RELATING
TO PROBLEM AREAS AND DETAILS

Problem Area and Details	Percentage of 200 Items
OBTAINING AND IMPROVING STAFF	28
<u>Teachers</u> 23	
Recruitment 5, encouraging professional growth 7, improved selection 4, more and improved training 3	
<u>Leaders</u> 5	
DETERMINING WHAT TO TEACH	25
<u>Society's Educational Needs</u> 9	
Preparation for life in a changing world 4, more inter-provincial co-ordination in Canadian education 2	
<u>The Curriculum</u> 16	
Determining the tasks of the school 3, adapting the curriculum to differences in pupils 10	
DIVIDING AND CO-ORDINATING RESPONSIBILITY	15
<u>Division of Educational Responsibility</u> 8	
Local-provincial 2, responsibility for the supervision of teachers 2	
<u>Public Relations</u> 7	
Greater public confidence in the school system 6	
ORGANIZING PUPILS, STAFF, BOARDS	5
Modifying the grade system 2	
FINANCES	8
More money 5	
TEACHING METHODS AND AIDS	7
Evaluating new media 2, improving classroom practice 4	
RESEARCH AND THEORY	6
Increasing the impact on practice 2, more research required 3	

TABLE XXI (continued)

Problem Area and Details	Percentage of 200 Items
GUIDANCE Improved placement in streams and programs 2, dropouts 2	6

Note: Where the percentage was less than 2, the problem detail has been omitted from the table.

The Southwestern CPEA Study

As set forth in Table I, the findings from Moore's study, whereby 330 Texas school superintendents rated the urgency and importance of forty problems, reveal an emphasis similar to that of the findings of the present study on programming, only slightly less stress on staffing, and rather more on public relations. The premier ranking of finance must also not be overlooked.

It is important to note, however, that findings from a study such as the present investigation where respondents were asked in an open-ended question to suggest crucial problems, are not truly comparable with findings based on the ranking of a stated list of problems.

The Gross Study

In the Massachusetts survey by Gross, finance was the obstacle most-frequently mentioned, with staff inadequacies second. Programming was not mentioned as a major obstacle. However, apparent differences in these findings and those of the present investigation seem to be due in great measure to differences in questions, since the Massachusetts superintendents were asked to indicate, not problems, but the major obstacles hindering them from doing a good job. Again, while in Massachusetts school superintendents are the chief executive officers of school boards, responsible to them for all aspects of school operation including finances, most Canadian superintendents are provincially-employed inspectors whose job responsibilities include not the "external" as much as the school program, and the rating of teachers.

Summary

Similar respondents in three similar studies appear to be concerned, in varying degrees perhaps, but with the same sorts of problems suggested by respondents of the present investigation -- especially with staffing and programming, but also with public relations and finances.

XII. SUMMARY

The problems suggested as crucial by eighty-eight Canadian superintendents and professors of education were grouped into eight problem areas.

Over half the respondents were concerned about each of the problem areas Obtaining and Improving Staff, and Determining What to Teach, areas which, while not significantly differing statistically from each other, were mentioned more often than any other area. Recruiting, selecting, and training teachers, and encouraging their professional growth were the chief concerns in the area of staffing. Meeting society's educational needs for people trained to live in a changing and technical world, selecting content, and especially providing for individual differences particularly in high school were the major problems in the area Determining What to Teach.

The third-most-frequently-mentioned area was Dividing and Co-ordinating Responsibility with its emphases on local-provincial control, division of responsibility for supervision, and, above all, on creating greater public confidence in the school system.

Mentioned each by over one-quarter of the respondents, but by proportions not differing significantly from each other, were the four areas Organizing Pupils, Staff, Boards; Finances and Plant; Teaching Methods and Aids; and Research and Theory. In the first of these areas stress was placed mostly on improving the operation of school boards, on evaluating new ideas in utilizing staff, and in modifying the grade system. Under Finances and Plant the chief focus of concern was the need for more money, but problems of teachers' salaries, control, and federal aid were also stressed. Those mentioning Teaching Methods and Aids considered especially crucial the needs for evaluating the new media and for developing better classroom practice. Under Research and Theory respondents dwelt chiefly on the needs for increasing the impact of research on practice.

The least frequently mentioned of the eight areas -- Guidance -- was concerned chiefly with dropouts.

These primary concerns, of staffing and programming especially, seem to be supported by other research findings.

CHAPTER V

SUITABILITY OF PROBLEMS FOR RESEARCH

Here are presented and analyzed the data supplied by the Research Expert Questionnaire. First to be set forth, using median ratings together with ranges, are respondents' opinions as to the suitability for research of each of eighty problems in educational administration in Canada. Then, nine areas into which the problems divide are examined for statistically significant differences among their suitability ratings. Finally, there is reported for each problem the type or types of research recommended by the twelve respondents.

I. THE SUITABILITY OF INDIVIDUAL PROBLEMS

Twelve research experts had been asked to rate on a five-point scale the suitability for research of each of eighty problems. Suitability for research included elements of possibility and profitability--the ease with which research could be done, and the degree to which it seemed able to contribute to the problem's solution.

Median Ratings Assigned Problems

Table XXII, the major table in this report, lists the problems exactly as worded in the Research Expert Questionnaire and the CPEAC Questionnaire. After each problem appear symbols in parentheses, the first indicating the median rating assigned by respondents: V - Very Suitable, S - Suitable, D - Difficult to Decide between Suitable and

Unsuitable, and U - Unsuitable. There were no problems whose median rating was Very Unsuitable. Each problem's median rating was calculated from the distribution, set forth in Appendix O, of the ratings assigned it by the twelve research experts. The other symbols appearing in the parentheses of Table XXII refer to other phases of the study and their meanings will be explained later, the second in Section III of this chapter, the third in Chapter VI.

As shown in Table XXIII, research experts, according to median ratings assigned by them, indicated thirty-seven problems as being suitable for research. Four of these -- numbers 22, 25, 38, and 51 -- were considered Very Suitable. The median opinions for thirty-one problems were that it was Difficult to Decide between Suitable and Unsuitable. Only twelve were given the median rating Unsuitable for Research -- numbers 3, 10, 27, 35, 57, 67, 68, 70, 71, 74, 76 and 78.

Seventy-Nine Problems Suitable for Research

As Table XXIV indicates, each of seventy-nine of the eighty problems was considered by at least one research expert as being either Suitable or Very Suitable for research --seventy-five, according to Appendix O, by more than one person. Of these seventy-nine, fifty-seven were considered Very Suitable by at least one person. There was even some doubt about the lack of suitability suggested for the eightieth problem, number 74, "Securing federal funds for provincial education", for, although it was not considered Suitable or Very Suitable by anyone, it was placed by three experts in the category Difficult to

TABLE XXII

RESEARCH PRIORITIES IN EDUCATIONAL ADMINISTRATION IN CANADA: EIGHTY IMPORTANT PROBLEMS ARRANGED BY PROBLEM AREAS, AND SHOWING FOR PROBLEMS AND AREAS THEIR SUITABILITY FOR RESEARCH, SUGGESTIONS AS TO TYPES OF RESEARCH, CRUCIALITY RANKS, AND SUGGESTED RESEARCH PRIORITIES

Determining What to Teach

- ***^a 1. DEVELOPING IN CHILDREN INQUIRING AND INDEPENDENT MINDS, POWERS OF CRITICAL THINKING, AND SELF-RELIANCE. (S-1-E)^a
- * 2. PROVIDING THE TECHNICAL TRAINING TO MEET THE NATION'S EVER-INCREASING DEMANDS FOR SKILLED WORKERS -- basic trades, primary and secondary industries, the training and re-training of adults, especially the unemployed, the retired, . . . (S-27.5-SE)
- 3. PROVIDING FOR THE RELIGIOUS GROWTH OF CHILDREN. (U-80-E)
- ** 4. PREPARING PUPILS TO BE ABLE TO ADAPT QUICKLY AND DELIBERATELY TO A CHANGING WORLD --automation and job obsolescence, dwindling distances, mixing with other races and cultures, the weapons of mass destruction, changes in values, . . . (S-14.5-EP)
- ? 5. ELIMINATING ILLITERACY FROM THE ADULT POPULATION. Included here as illiterate are those supposedly able to read and write but who cannot do so well enough to use these skills when necessary in ordinary living and working. (D-62-E)
- ? 6. PROVIDING MORE FULLY FOR THE MENTAL AND CULTURAL DEVELOPMENT OF ADULTS -- night schools, university extension courses, . . . (D-53-H)
- ? 7. ENABLING MORE STUDENTS TO OBTAIN A COLLEGE EDUCATION -- junior colleges, extra years added to the high school, expanded universities, more flexible entrance requirements (although not necessarily of lower standard), financial aid, . . . (D-44-E)
- 8. EDUCATING INDIANS AND ESKIMOS. (S-78-EHS)

^aFor the meaning of these symbols see the footnote on page 103.

TABLE XXII (continued)

- ? 9. SECURING MORE CO-ORDINATION IN CANADIAN EDUCATION -- basic subjects, teacher certification, transfer of pension rights and experience, etc., --to ease movement from one province to another. (D-55.5-SPH)
- 10. GROUNDING CANADIAN EDUCATION FIRMLY IN PHILOSOPHY WITH STABLE PURPOSES AND DEFINED GOALS. (U-16-PH)
- ? 11. DETERMINING WHAT THE SCHOOLS SHOULD TEACH -- dividing the educational tasks between the school and the home, church, mass media, whose social roles are constantly changing; selecting subject matter amid pressures for stressing everything from scholastic excellence to civil defence . . . (D-24-PHES)
- * 12. BRINGING GRADE PLACEMENT, METHODS, CONTENT, especially in foreign language and mathematics, IN LINE WITH WHAT IS KNOWN ABOUT THE BIOLOGICAL MATURATION OF THE BRAIN, physical growth, interests, general personality development. (S-38.5-E)
- ? 13. IMPROVING THE MEANS BY WHICH WE REVISE THE CURRICULUM -- more full-time qualified personnel; greater participation of teachers including summer employment; co-operation of social scientists, industry, psychologists. . . . (D-26-SE)
- * 14. PROVIDING SUITABLE SCHOOLING FOR VERY HANDICAPPED CHILDREN, including those with extremely low intelligence, the delinquent, the emotionally disturbed, the blind, and those with other extreme handicaps. (S-41-ES)
- ** 15. PROVIDING, at the secondary-school level for those whose academic abilities are so low that their entrance into ordinary high school is of doubtful value, TERMINAL PROGRAMS INCLUDING TRAINING TO MAKE A LIVING and to take pride in their work. (S-13-ES)
- * 16. PROVIDING A GOOD GENERAL HIGH-SCHOOL COURSE FOR "AVERAGE" STUDENTS NOT UNIVERSITY BOUND. (D-4-SE)
- *** 17. PROVIDING SUITABLE PROGRAMS -- enrichment, acceleration -- FOR THOSE CHILDREN WHO ARE TALENTED, intellectually, artistically, or otherwise. (S-8-ES)
- * 18. ADAPTING PROGRAMS FOR PUPILS FROM DIFFERENT ENVIRONMENTS -- providing an enriched cultural background for those of low socio-economic class; varying the curriculum for rural pupils, different ethnic groups, . . . (S-46.5-ES)

TABLE XXII (continued)

Teaching Methods and Aids

- * 19. IMPROVING THE TEACHING OF READING. (S-31-E)
- * 20. DEVELOPING BETTER METHODS OF TEACHING THE VARIOUS SUBJECTS (except reading). (S-29-E)
- ** 21. EVALUATING THE TRADITIONAL METHODS IN GENERAL USE IN CLASSROOMS -- homework, study periods, lecturing, memorizing for tests, . . . (S-25-ES)
- * 22. DETERMINING THE PLACE IN EDUCATION OF THE NEW MEDIA -- educational television, teaching machines, language laboratories, sub-liminal or "sleep" learning, . . . (V-34-E)
- ** 23. IMPROVING TESTING PROCEDURES IN CLASSROOM AND SCHOOL -- to make meaningful comparisons of the marks of different pupils, subjects, instructors; to measure pupil progress; . . . (S-11-ES)
- ? 24. DEvising EXTERNAL EXAMINING PROCEDURES THAT ENCOURAGE PROGRESS TOWARDS THE GOALS OF EDUCATION, rather than cramming and regurgitation. (D-30-E)
- * 25. PROVIDING MORE PROVINCIAL AND CANADIAN STANDARDIZED ACHIEVEMENT TESTS with up-to-date norms. (V-27.5-ES)
- ? 26. PROVIDING BETTER TEXTBOOKS FOR CANADIAN PUPILS. (D-49-ESP)
- 27. EQUIPPING SCHOOLS WITH BASIC TEACHING AIDS -- blackboards, maps, science apparatus and laboratories, adequate libraries, . . . (U-55.5 -E)

Guidance

- ** 28. IMPROVING THE MEANS OF PLACING PUPILS IN PROGRAMS -- securing better measures of intelligence, especially for slow readers, lower-class children, pupils with weak hearing, etc.; improving the measurement of other factors affecting achievement; determining the aptitudes necessary for various courses; . . . (S-20-ES)
- * 29. GUIDING PUPILS INTO PROGRAMS IN LINE WITH THEIR CAPABILITIES DESPITE THE PRESTIGE ATTACHED TO MATRICULATION, and the stigma to terminal, general, or vocational programs. (D-2-EHS)

TABLE XXII (continued)

- ** 30. FINDING OUT WHY CERTAIN PUPILS BECOME UNINTERESTED, TRUANTS, LAGGARDS, DROPOUTS, AND PREVENTING THESE CONDITIONS FROM DEVELOPING. (S-19-SE)
- * 31. LOWERING FAILURE AND DROPOUT RATES AT UNIVERSITY -- better selection procedures, wiser choice of subjects for students, perhaps better teaching and guidance, improved liason with the high school, . . . (S-33-ES)
- ? 32. MAINTAINING GOOD DISCIPLINE AND HIGH PUPIL MORALE. (D-42-ES)

Obtaining and Improving Staff

- * 33. TEACHER RECRUITMENT -- attracting capable people into teaching. (D-10-SEH)
- ? 34. IMPROVING THE FINANCIAL POSITION OF TEACHERS -- increased salaries, better pensions, financial assistance while training, salaries for extremely good teachers high enough to discourage transfer to administration, . . . (D-66-PS)
- 35. IMPROVING THE SOCIAL STATUS AND THE LIVING CONDITIONS OF TEACHERS -- prestige in the community, personal freedom, tenure, teacherages, isolation in rural areas, . . . (U-70-PSHE)
- * 36. ENCOURAGING THE PROFESSIONAL GROWTH OF THOSE ALREADY TEACHING -- developing responsible attitudes, more concern with the overall goals of education, and better performance, through adequate supervision of instruction, in-service education including university courses, study groups, leaves of absence, . . . (D-3-ES)
- ** 37. DETERMINING REALISTICALLY THE NECESSARY QUALIFICATIONS OF TEACHERS -- the academic background, the professional training, the amount of specialization, required for each of the many jobs in the elementary school, the high school, kindergarten, . . . (S-17.5-ESH)
- *** 38. MEASURING TEACHER COMPETENCE AND PERFORMANCE. (V-6-E)
- ? 39. KEEPING THE GROSSLY INCOMPETENT FROM TEACHING -- improved selection, probation before certification and tenure; halting the issue and extension of temporary permits to obvious incompetents; co-operation between boards and teachers' associations to remove those presently unqualified; . . . (D-12-ES)

TABLE XXII (continued)

- *** 40. IMPROVING THE COMPETENCE OF BEGINNING TEACHERS -- improved teacher-training procedures (including practice-teaching), orientation and internship programs, deciding between university and teachers' colleges for training teachers, . . . (S-7-ES)
- *** 41. IMPROVING PROFESSIONAL LEADERSHIP IN EDUCATION including principals, superintendents, departmental officials at all levels -- better methods of identifying, recruiting, selecting, training; clarification of the training roles that should be played by the university and the field. (S-9-SEP)
- 42. IMPROVING THE SELECTION, TRAINING AND IN-SERVICE EDUCATION OF THOSE EMPLOYED IN THE SCHOOLS BUT WHO ARE NOT PROFESSIONAL EDUCATORS -- secretary-treasurers, business officials, bus drivers, lunch workers, janitors, . . . (S-71-SE)

Organizing Pupils, Staff, Boards

- ** 43. DECIDING THE EXTENT TO WHICH THE GRADE SYSTEM SHOULD BE MODIFIED: balancing the gains from teaching semi-permanent groups or grades with the concomitant headache of non-promotion, against individualized instruction, continuous progress in elementary school, promotion by subject in high school. (S-21.5 -ES)
- * 44. HOMOGENEOUS GROUPING. Deciding whether to divide pupils within the same grade, subject, or age group, into classes of similar intellectual ability. (S-32-E)
- ? 45. DECIDING WHETHER DIFFERENT PROGRAMS -- technical, general, academic, terminal, -- SHOULD BE TAUGHT IN SPECIALIST SCHOOLS OR ALL TOGETHER IN A COMPOSITE SCHOOL -- evaluating the merits of vocational courses in high schools, . . . (D-49-ES)
- ? 46. EVALUATING THE VARIOUS SCHEMES FOR DIVIDING THE SCHOOLS, viz having elementary pupils in one school with high-school pupils in another (8-4, K6-6, etc.); or dividing them into elementary and junior high and senior high (6-3-3, 6-4-3, etc.); or having one school for all grades; . . . (S-58-ES)
- ? 47. DETERMINING THE OPTIMUM SIZE(S) OF SCHOOLS AT ALL LEVELS, which will be large enough to provide a good education and yet small enough to retain the personal contacts between teachers and pupils, parents and teacher. (S-59.5-SE)

TABLE XXII (continued)

- ? 48. RURAL CENTRALIZATION. Making and effecting wise decisions with respect to eliminating one-room schools, correspondence courses, small high schools, and substituting central or regional schools with the concomitant headaches of transportation, and possibly dormitories. (D-49-SE)
- ? 49. RE-ORGANIZING THE PROVINCE INTO SCHOOL DISTRICTS LARGE ENOUGH TO PROVIDE SUFFICIENT FUNDS AND PUPILS, TO HIRE A PROFESSIONAL ADMINISTRATOR AS THE BOARD'S EXECUTIVE OFFICER, AND YET SMALL ENOUGH TO KEEP CONTROL CLOSE TO THE PEOPLE. (D-51-ESH)
- ? 50. ASSIGNING EQUITABLE WORKLOADS TO TEACHERS, especially to those with essays to correct, extra-curricular tasks, slow-learning pupils, . . . (S-57-ES)
- * 51. EVALUATING NEW IDEAS IN STAFF UTILIZATION -- team teaching; teaching assistants; clerical help; special roles for part-time teachers and the married women teachers with children; varying class size for the different teaching tasks of lecturing, group discussion, individual help; . . . (V-36-E)
- * 52. IMPROVING THE WAY SCHOOL BOARDS OPERATE -- better selection and in-service education of members, proper accounting and auditing procedures, stressing policy making while delegating executive authority to the principal or superintendent, improving the procedure at board meetings, . . . (S-46.5-SEP)
- 53. ORGANIZING THE DEPARTMENT OF EDUCATION MORE EFFICIENTLY. (D-75-PSHE)

Dividing and Co-ordinating Responsibility

- 54. UNDERSTANDING CLEARLY THE RIGHTS AND RESPONSIBILITIES ASSIGNED BY LAW TO THE VARIOUS PEOPLE AND BODIES CONCERNED WITH EDUCATION. (D-74-H)
- * 55. DETERMINING THE PROPER DIVISION OF RESPONSIBILITY BETWEEN LOCAL BOARDS OR DISTRICTS AND PROVINCIAL GOVERNMENTS -- how much local autonomy and in what areas? Equalizing educational opportunity throughout the province while sharing costs fairly; impact of grants, foundation programs; . . . (S-45-SHEP)
- ? 56. DETERMINING THE PROPER RELATIONSHIPS BETWEEN LOCAL GOVERNMENTS AND SCHOOL BOARDS -- completely independent one from the other ? The board a committee of the municipality ? Fiscal relations . . . (S-61-HSE)

TABLE XXII (continued)

57. DEVISING WAYS -- inter-provincial co-operation, constitutional changes -- FOR CANADA AS A WHOLE TO MEET ITS EDUCATIONAL OBLIGATIONS OF SEEING THAT EVERY CANADIAN CHILD HAS EQUAL ACCESS TO THE BEST IN EDUCATION; of advancing our position in science, industry, and the arts; preventing unemployment; . . . (U-35-H)
- ? 58. DETERMINING THE PROPER DIVISION OF RESPONSIBILITY AMONG PRINCIPAL, SPECIALIST SUPERVISOR, SUPERINTENDENT, INSPECTOR, ETC., FOR THE SUPERVISION OF INSTRUCTION including classroom visitation. (D-38.5-SE)
- ** 59. DEVELOPING A SOUND ROLE FOR THE SUPERINTENDENT -- policy making, curriculum development, etc.; clarifying the position of the provincially-appointed superintendent; . . . (S-23-SPHE)
- ? 60. CLARIFYING THE ROLE OF THE PRINCIPAL IN MATTERS OTHER THAN THE SUPERVISION OF INSTRUCTION and in particular his position as an executive officer of the board while a member of the teachers' association -- teacher evaluation and hire, salary negotiation, . . . (D-40-SEH)
- * 61. DETERMINING THE ROLES OF THOSE IN POSITIONS OF AUTHORITY UNDER THE PRINCIPAL -- department heads, vice-principals, guidance counsellors, -- in schools of different sizes and grade levels; their relationship with each other and with others. (S-54-SEH)
- ? 62. ACCREDITATION. DETERMINING THE EXTENT THAT THE INDIVIDUAL SCHOOL SHOULD BE INDEPENDENT of prescribed courses of study and textbooks, external examinations, inspection, . . . (D-67-ES)
- ? 63. ASSIGNING TO GOOD TEACHERS AS INDIVIDUALS MORE CONTROL over methods, curriculum, etc., with less interference from above. (D-43-E)
- ? 64. DETERMINING THE ROLE OF THE TEACHERS' ASSOCIATION -- control of teacher certification, concern with in-service education. . . . (D-63-HP)
65. ASCERTAINING THE IMPACT ON EDUCATION OF VARIOUS BODIES -- advisory councils, commissions, and associations of trustees, parents, or educators, organized for educational purposes but with little or no legal responsibility for it; religious, patriotic or civic organizations operating in education as pressure groups; . . . (S-72-SHE)

TABLE XXII (continued)

- ? 66. IMPROVING SCHOOL BOARD-STAFF RELATIONS, especially with regard to salary negotiations, tenure, dismissal and resignation procedures, . . . (D-59.5-S)
- 67. SECURING MORE UNITY AND CO-OPERATION AMONG THE PROFESSIONALS IN THE VARIOUS BRANCHES OF EDUCATION -- elementary, secondary and university; teachers, administrators; vocational, academic; adult education, the schools; one professional federated organization, or different associations ? . . . (U-37-E)
- 68. SECURING GREATER CO-OPERATION BETWEEN PUBLIC SCHOOLS AND SEPARATE SCHOOLS, or among denominational schools, -- avoiding duplication of school services in sparsely-populated areas, adapting the school system for religious groups, . . . (U-79-H)
- ? 69. CREATING GREATER PUBLIC CONFIDENCE IN THE SCHOOL SYSTEM -- better public understanding of what the schools are trying to do and of the importance of education so that they will finance education, back educational leaders, accept real teachers, . . . (D-21.5-ES)
- 70. CHANGING THE SOMETIMES IRRESPONSIBLE AND UNINTELLIGENT ATTITUDE OF THE PRESS and of other mass media towards education. (U-77-E)
- 71. IMPROVING THE RELATIONS BETWEEN PROVINCIAL GOVERNMENTS AND OTHERS IN EDUCATION; government consultation with teachers, trustees, etc., before acting; . . . (U-68.5-H)
- ? 72. IMPROVING TEACHERS' MEETINGS -- staff meetings, teachers' association meetings, . . . (S-64-ES)

Finances and Plant

- ? 73. OBTAINING MORE MONEY FOR EDUCATION. (D-52-nil)
- 74. SECURING FEDERAL FUNDS FOR PROVINCIAL EDUCATION. (U-68.5-H)
- ? 75. PROVIDING A GOOD SCHOOL PLANT -- buildings and sites attractively and functionally designed, teacher approved, based on long-term policy and population trends, and properly maintained; equipped (especially in remote areas) with water, toilets, adequate heating; buses in excellent running order; . . . (D-65-SE)

TABLE XXII (continued)

Research and Theory

76. PROVIDING ADEQUATE FACILITIES FOR EDUCATIONAL RESEARCH -- securing funds, properly-trained personnel, . . . (U-14.5-S)
- *** 77. INCREASING THE IMPACT OF RESEARCH ON PRACTICE -- communicating research findings to teachers and other users of research, basing more research on problems identified by users, encouraging teachers to do more classroom research, . . . (S-5-ES)
78. IMPROVING THE QUALITY OF THE WRITINGS OF THOSE IN EDUCATION and of the magazines they publish -- teachers, trustees, home & school, government departments, . . . (U-76-E)
- ? 79. DEVELOPING SOUND THEORY AND GETTING IT INTO PRACTICE -- increasing the contacts of theorists with pupils, schools, the field generally; improving the communication of theory to those in the field. . . . (D-17.5-E)

Miscellaneous

80. PROVIDING MORE TIME FOR EDUCATION -- lengthening the school day or week or year, raising the school-leaving age, using summer schools, . . . (D-73-E)

Note: The symbols used in this table are explained below.

1. Symbols, in Parentheses, Appearing after Problems

- (a) The letter following the problem statement is the median rank assigned the problem by research experts, according to suitability for research.
- | | |
|---|---|
| V | Very Suitable for Research |
| S | Suitable for Research |
| D | Difficult to Decide between Suitable and Unsuitable |
| U | Unsuitable for Research |
- (b) The numeral between the two sets of letters is the median rank assigned the problem by sixty members of the 1961 CEA Short Course, according to the criterion of cruciality.
- (c) The letter or letters following the numeral and which are thus the third symbol in parentheses refer to the type of research suggested. Where more than one type is suggested, the suggestions

TABLE XXII (concluded)

are in order of frequency. Frequencies under three are not reported for Survey or Philosophical research.

S Survey
E Experimental
H Historical
P Philosophical

2. Symbols Preceding Problems

- *** Problems deserving top research priority.
- ** Problems deserving secondary research priority.
- * Problems worthy of some consideration by research workers.
- ? Problems deserving less research priority than the above but more than those with no preceding symbol.

TABLE XXIII

NUMBER OF PROBLEMS ASSIGNED BY MEDIAN RATINGS OF RESEARCH
EXPERTS TO EACH OF THE FIVE CATEGORIES

Category	Number of Problems
Very Suitable for Research	4
Suitable for Research	33
Difficult to Decide between Suitable and Unsuitable	31
Unsuitable for Research	12
Very Unsuitable for Research	0

TABLE XXIV

THE RANGE OF EXPERT OPINION AS TO THE SUITABILITY
FOR RESEARCH OF THE EIGHTY PROBLEMS

Classification	Number of Problems
Problems rated as Very Suitable by at least one respondent	57
Problems rated as Very Suitable or Suitable by at least one respondent	79
Problems rated as Very Unsuitable by at least one respondent	59
Problems rated as Very Unsuitable or Unsuitable by at least one respondent	72
Problems rated Very Unsuitable by at least one respondent, and Very Suitable by at least one	38
Problems rated Very Unsuitable or Unsuitable by at least one respondent, and also Suitable or Very Suitable by at least one	71
Problems with ratings in all five categories	29

Decide. Experts, then, considered, with varying degrees of consensus, that most, if not all, of these problems were to a greater or lesser degree suitable for research.

The Range in Research Expert Opinion

While a median rating gives some indication of respondents' opinions regarding a problem's suitability for research, it does not reveal the spread of opinion. Appendix O sets forth the exact distribution of responses. It shows, for example, that while the median rating for Problem 1 is S - Suitable, it is really a composite of four V ratings, four S's, two D's, one U, and one Very Unsuitable rating.

Table XXIV, based on Appendix O, suggests an extreme range of opinion among research experts as to problems' suitability for research. It shows that twenty-nine problems had ratings in all five categories, and that seventy-one problems, although rated by at least one respondent as Unsuitable or Very Unsuitable, were by at least one other rated Very Suitable or Suitable.

However, this apparent conflict in expert opinion may perhaps be overemphasized. In only six cases were there two or more ratings simultaneously in each of Very Suitable and Very Unsuitable. Furthermore, if one eliminates as extreme the top one-sixth and the bottom one-sixth of the responses and analyzes the central two-thirds as representing moderate opinion, one sees, as shown in Table XXV, that in all but ten cases --problems 8, 23, 34, 53, 54, 58, 69, 76, 77 and 78 --the span was less than three categories, and that for twenty-four problems two-thirds

TABLE XXV
THE RANGE OF THE CENTRAL TWO-THIRDS OF
RESEARCH EXPERT RATINGS

Range in Categories of Two-thirds of Responses	Number of Problems
Less than one category	2
One but less than two categories	22
Two but less than three categories	46
Three or more categories.	10

of the responses were in the same or adjacent categories.

Thus, while the overall range of opinion of research experts usually spanned four or five categories, when the extreme one-sixths were removed this span was reduced to less than three categories, thus indicating considerably more consensus.

II. SIGNIFICANT DIFFERENCES AMONG PROBLEM AREAS

The nine problem areas --Determining What to Teach; Teaching Methods and Aids; Guidance; Obtaining and Improving Staff; Organizing Pupils, Staff, Boards; Dividing and Co-ordinating Responsibility; Finances and Plant; Research and Theory; and Miscellaneous -- were compared to see if the ratings assigned by research experts differed significantly from area to area.

The Analysis of Variance

Each respondent's median rating of the problems in each area was calculated and a Friedman Two-Way Analysis of Variance by Ranks performed¹, revealing a χ^2_r of 45.92. With eight degrees of freedom a χ^2 of 26.12 is significant at the .001 level. Thus, it was quite in order to reject beyond the .001 level of significance the null hypothesis that the nine samples, or problem areas, were drawn from the same population.

¹Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), 166-73.

However, merely knowing that there were statistically significant differences in the ratings of problem areas as to suitability for research was not very satisfactory. Of far greater moment would be to know which areas were rated significantly more suitable or less suitable than which other areas.

This is not an easy problem to solve. Its difficulty is related to whether it is proper to use t tests after an F test, and to the whole issue of multiple comparisons in the analysis of variance. Although procedures have been developed by Tukey,² Duncan,³ and others⁴ for use with interval data, the literature, with one exception, makes no mention of the proper procedure to be used after analysis of variance with ordinal data.

The Wilcoxin Matched-Pairs Signed-Ranks Test

Several authors, in some cases with a little reluctance, suggest the analysis of differences between pairs, after analysis of variance

²

J. W. Tukey, "Comparing Individual Means in the Analysis of Variance," Biometrics V (1949), 99-114.

³David B. Duncan, "Multiple Range and Multiple F Tests," Biometrics XI (1955), 1-42.

⁴Walter T. Federer, Experimental Design: Theory and Application (New York: The Macmillan Company, 1955), 18-57.

has revealed significant overall differences.^{5,6,7} Since no better alternative was available, and since a survey such as the present study is obliged to obtain as much information from the data as possible, each of the thirty-six pairs of related samples was compared to see which differences in ratings were significant. The Wilcoxin Matched-Pairs Signed-Ranks Test, a nonparametric procedure,⁸ was used. The results are shown in Table XXVI.

Three findings emerge when this test is applied to the data. First, according to the median rating assigned by each research expert to nine areas, Teaching Methods and Aids, and Guidance were significantly more suitable for research than any of the seven other problem areas. In the same way Obtaining and Improving Staff, and Organizing Pupils, Staff, Boards were judged significantly more suitable for research than either of the remaining five areas. Thirdly, the area Finances and Plant

5

Henry E. Garrett, Statistics in Psychology and Education (fifth edition; New York: Longmans, Green and Co., 1958), 284.

6

Joy P. Guilford, Fundamental Statistics in Psychology and Education (third edition; New York: McGraw-Hill Book Company, Inc., 1956), 264.

7

James E. Wert, C.O. Neidt, and J. S. Ahmann, Statistical Methods in Educational and Psychological Research (New York: Appleton - Century Crofts, Inc., 1954), 183.

8

Siegel, op. cit., 75-83.

was significantly less suitable than any other area except Research and Theory. However, as shown in Table XXII, every problem area but Finances and Plant and Miscellaneous contained one or more problems that were Suitable or Very Suitable for research.⁹

The Link-Wallace Short Cut to Allowances Method

An alternative procedure was performed to test the significance of differences among the thirty-six pairs. The one reference in the literature to testing the differences between multiple pairs of related samples involving ordinal data was contained in an article by Mosteller and Bush¹⁰ who reported part of an unpublished manuscript by R. F. Link and D. L. Wallace, associates of J. W. Tukey. They advocate the Link-Wallace Short Cut to Allowances Method, based on the range, and state that, "Although the matter has not had theoretical investigation, we

9

Ferguson has suggested that in applying t tests after an F test a more rigorous basis than usual be required for rejection of the null hypothesis, that instead of using the five per cent level of rejection the $10/k(k-1)$ level be used, where k is the number of groups. For the present study with its nine problem areas, Ferguson's rejection level would thus be .0014. However, the available statistical literature suggests no way of calculating, for the Wilcoxin test, levels of significance beyond the .01 when N's are as small as 12. Therefore, Table XXVI does not go beyond this level. Perhaps the net result of Ferguson's suggestion is that too much stress should not be placed on probabilities greater than the .01 and that the second of the three findings mentioned above be regarded, not so much a significant difference as a difference approaching an acceptable level of significance. See: George Ferguson, Statistical Analysis in Psychology and Education (New York:McGraw-Hill Book Company, Inc., 1959), 238.

¹⁰Frederick Mosteller and Robert R. Bush, "Selected Quantitative Techniques," Handbook of Social Psychology, Gardner Lindzey, editor (Reading, Mass.: Addison-Wesley Publishing Company, Inc., 1954), 304-7, 319-20.

TABLE XXVI
SIGNIFICANT DIFFERENCES IN SUITABILITY FOR RESEARCH AMONG
PROBLEM AREAS AS REVEALED BY THE WILCOXIN TEST

	G	OIS	OPSB	DWT	M	DCR	RT	FP
TMA	.88	.02	.05	.02	.01	.01	.02	.01
G		.05	.02	.01	.01	.01	.02	.01
OIS			.87	.05	.16	.01	.05	.01
OPSB				.05	.24	.01	.05	.01
DWT					.48	.06	.10	.01
M						.64	.66	.07
DCR							.76	.01
RT								.58

Note: Any probability of .05 or less is reported at the most significant of the three levels attained -- .05, .02, or .01.

would suggest that the Link-Wallace short-cut to allowances . . . might reasonably be applied here."¹¹ (referring to the problem of M rankings, in a section on nonparametric methods). Unfortunately, while the unpublished manuscript lists tables for the .01 level, they had been published only at the .05 level. Accordingly, Table XXVII reports significance only at the latter level.

It is interesting to note that this analysis supports two of the findings based on the Wilcoxin Matched-Pairs Signed-Ranks Test, namely that the two areas Teaching Methods and Aids, and Guidance are significantly more suitable for research than most other areas, and that Finances and Plant was rated as significantly less suitable for research than most other areas.

III. SUGGESTIONS AS TO TYPES OF RESEARCH

As described in Chapter III, each respondent had been requested to indicate for each problem he had rated 1, 2, or 3 on suitability for research whichever, if any, type of research he would recommend: S-Survey, E - Experimental, H - Historical and P - Philosophical. Since in Appendix O are set forth the number of experts suggesting each type of research for each problem, and since a condensed and somewhat modified version of the same data appears in Table XXII, the detailed suggestions will not be reported here. Rather will there be mentioned and discussed several of the more general findings, and a word of caution

¹¹

Ibid., 320.

TABLE XXVII

SIGNIFICANT DIFFERENCES IN SUITABILITY FOR RESEARCH AMONG PROBLEM
AREAS AS REVEALED BY THE LINK-WALLACE METHOD

	G	OIS	OPSB	DWT	M	DCR	RT	FP
TMA	--	--	--	.05	.05	.05	.05	.05
G		--	--	.05	.05	.05	.05	.05
OIS			--	--	--	--	--	.05
OPSB				--	--	--	--	.05
DWT					--	--	--	.05
M						--	--	.05
DCR							--	--
RT								--

Note: Tables for the Link-Wallace Short Cut to Allowances
Method are available only at the .05 level.

about the suggestions for two types of research.

The Problem of Reliability

First, consider once again Table IX which reports for Philosophical research three measurements of stability --phi coefficients -- significant at the .83, .62 and .06 levels. The median is .62. This suggests that for every three suggestions made recommending this type of research, almost two could occur by chance. Suggestions for Survey research are in the same predicament. Table XXII takes this into account by listing P and S only when these types of research are suggested by three or more respondents. Perusers of Appendix O, where the unadjusted data are reported, are urged to bear in mind these indications respecting reliability. Since for Historical and for Experimental research the stability coefficients were significant at the .001 level, no such adjustment or caution is necessary.

Types of Research Most Frequently Suggested

Table XXVIII indicates that Survey and Experimental research were suggested each about three hundred times and for almost every problem, Philosophical research was suggested much less frequently and Historical research but thirty-nine times. For only four problems -- numbers 54, 55, 56 and 64 -- was Historical research suggested by as many as three or four respondents. Similarly, Philosophical research was suggested three or more times for only thirteen problems and for only two, six or more times -- numbers 11 and 59. On the other hand, Survey research was mentioned three or more times for fifty-one problems and

TABLE XXVIII

SUGGESTIONS AS TO TYPES OF RESEARCH AND THE NUMBER OF
RESPONDENTS MAKING THEM

Type of Research	Total Suggestions	Number of Problems for Which This Type Was Suggested			
		by 8 or more experts	by 6 or more experts	by 3 or more experts	by 1 or 2 experts
Experimental	305	12	23	44	67
Survey	298	5	20	51	77
Philosophical	122	1	2	13	64
Historical	39	--	--	4	23

and six or more times for twenty. Experimental research was even more frequently indicated often, being suggested by half or more of the respondents for twenty-three problems. For problems 17, 20, 22, and 51, Experimental research was recommended by every respondent.

Consensus among Suggestions

Two types of consensus are apparent. One is in not seeing, except in a few cases, Historical studies as a suitable type of research for these problems. The same is true in lesser degree for Philosophical research where, however, there is somewhat less agreement, since for fifty-one problems one or two respondents suggested this type of research as opposed to the ten or eleven who did not. The other type of consensus occurs where experts tend to recommend the same types of research for a problem. Thus, for twenty and twenty-three problems respectively, Survey and Experimental research were recommended by half or more of the respondents.

Despite the importance to the research student of knowing where consensus or the lack of it exists, also noteworthy is where even one research expert sees research of a particular type as being possible and profitable. One would do well, however, not to put too much emphasis on Philosophical and Survey research when, for a given problem, it has been suggested but once or twice.

IV. SUMMARY

From an analysis of the ratings by twelve research experts as to the suitability for research of each of eighty problems in educational administration, and from their suggestions as to the types of research that might be carried out, a number of findings emerged.

1. Research experts, according to median ratings assigned by them, suggested that of the eighty problems thirty-seven were Suitable or Very Suitable for research, that twelve were Unsuitable, and that for the remaining thirty-one it was Difficult to Decide between Suitable and Unsuitable.

2. For every problem but one, at least one respondent, and nearly always two or more, considered it Suitable or Very Suitable for research.

3. While for almost half the problems opinions ranged all the way from Very Suitable to Very Unsuitable, yet, for all but ten problems the range of opinions of two-thirds of the respondents was less than three categories.

4. There were differences statistically significant beyond the .001 level among the median ratings assigned to the nine problem areas.

5. The two areas Teaching Methods and Aids, and Guidance, were considered as significantly more suitable, statistically, for research than most of the other problem areas.

6. The area Finances and Plant was considered as significantly less suitable, statistically, for research than most of the other problem areas.

7. There is a statistical indication that the two areas Obtaining and Improving Staff, and Organizing Pupils, Staff, Boards, may have been

considered by research experts as more suitable for research than any other area except Teaching Methods and Aids, and Guidance.

8. Every problem area but Finances and Plant, and Miscellaneous contained one or more problems that were considered, according to median ratings, to be Suitable or Very Suitable for research.

9. Two types of consensus were revealed with respect to suggestions for the types of research that might be performed. One was in not recommending, except for a few problems, Historical and, to a lesser extent, Philosophical research. The other was the tendency for research experts to recommend Survey and Experimental research for many problems.

10. For each of the eighty problems, at least one type of research was recommended.

CHAPTER VI

CRUCIALITY RATINGS ASSIGNED TO PROBLEMS

In this chapter are examined the data supplied by the sixty CPEAC Questionnaires completed and returned by members of the 1961 CEA Short Course. First to be presented are the eighty problems ranked according to the median cruciality rating assigned by the sixty respondents, together with the distribution of the ratings for each problem. Following this there is discussed the caution with which the ratings of each problem should be examined. The nine problem areas are then investigated for statistically significant differences among them with respect to the cruciality ratings given. Finally, preceding the summary, comparisons will be made between the findings reported in this chapter and those of Chapter IV.

I. THE CRUCIALITY OF INDIVIDUAL PROBLEMS

Each problem had been placed by each respondent into one of eleven categories according to the degree he considered it crucial, and in the manner specified in the fourth section of Chapter III. From the distribution for each problem of the opinions of the sixty respondents, the median rating assigned by them was computed. Median ratings ranged, as Appendix P shows, from 2.64 for Problem 1 to 9.00 for Problem 3. The problem with the lowest median was ranked highest in cruciality, the second lowest second in cruciality, and so on, with the problem

possessing the highest median ranked eightieth. Both Table XXII and Appendix P show these cruciality ranks.

The Ten Problems Ranked Most Crucial

The information for the succeeding discussion of the ten problems ranking most crucial in educational administration is provided in Table XXII, Table XXIX, and Appendix P.

As indicated there, the problem rated most crucial of the eighty was Problem 1, "Developing in children inquiring and independent minds, powers of critical thinking, and self-reliance." Its median rating was 2.64 with no respondent placing it in a category less crucial than the seventh of the eleven.

Problem 29, "Guiding pupils into programs in line with their capabilities despite the prestige attached to matriculation," was rated second with a median rating of 3.32. This suggests strong support elsewhere in Canada for Kelland's Alberta finding that the matriculation program possesses considerably more prestige than the other forms of high school education.¹

Problem 36, "Encouraging the professional growth of those already teaching," placed third.

Problem 16, "Providing a good general high-school course for 'average' students not university bound," was rated the fourth most

1

Newman Kelland, "A Study of the Prestige of Certain Aspects of the Educational Program in Alberta Composite High Schools" (unpublished Master's thesis, The University of Alberta, 1959), 85.

TABLE XXIX

THE TEN PROBLEMS CONSIDERED MOST CRUCIAL

Rank	Abbreviated Statement of Problem	
1	(1)	Developing in children inquiring and independent minds, powers of critical thinking, and self-reliance.
2	(29)	Guiding pupils into programs in line with their capabilities despite the prestige attached to matriculation.
3	(36)	Encouraging the professional growth of those already teaching.
4	(16)	Providing a good general high-school course for "average" students not university bound.
5	(77)	Increasing the impact of research on practice.
6	(38)	Measuring teacher competence and performance.
7	(40)	Improving the competence of beginning teachers.
8	(17)	Providing suitable programs for those children who are talented.
9	(41)	Improving professional leadership in education.
10	(33)	Teacher recruitment.

Note: Figures in parentheses are the problem numbers.

crucial problem in educational administration in Canada.

That general concern exists throughout Canada for using the findings of educational research is illustrated by the high rating -- fifth -- assigned the problem of "Increasing the impact of research on practice."

Also among the top ten were, in order of cruciality, "Measuring teacher competence and performance," "Improving the competence of beginning teachers," "Providing suitable programs for those children who are talented," "Improving professional leadership in education," and "Teacher recruitment," -- numbers 38, 40, 17, 41 and 33 respectively.

The Five Problems Considered Least Crucial

As shown in Table XXX, the problem rated as least crucial was Problem 3, "Providing for the religious growth of children." Here, the average rating conceals some difference in opinion for an examination of the distribution reveals that while over two-thirds of respondents placed this in one of the last four categories, every category was used, with three persons placing the problem in the top, most crucial category, and a total of ten in the first four categories, indicating as does the quotation in Section IV of Chapter IV the importance attached to this problem by a minority, albeit a determined one, in Canadian education.

Problem 68, "Securing greater co-operation between public schools and separate schools, or among denominational schools," was rated as second least crucial. Here there was considerably more agreement, as the first three categories were not used, except by one respondent.

TABLE XXX

THE TEN PROBLEMS CONSIDERED LEAST CRUCIAL

Rank		Abbreviated Statement of Problems
80	(3)	Providing for the religious growth of children.
79	(68)	Securing greater co-operation between public schools and separate schools, or among denominational schools.
78	(8)	Educating Indians and Eskimos.
77	(70)	Changing the sometimes irresponsible and unintelligent attitude of the press and of other mass media towards education.
76	(78)	Improving the quality of the writings of those in education.
75	(53)	Organizing the department of education more efficiently.
74	(54)	Understanding clearly the rights and responsibilities assigned by law to the various people and bodies concerned with education.
73	(80)	Providing more time for education.
72	(65)	Ascertaining the impact on education of various bodies organized for educational purposes but with little or no legal responsibility for education.
71	(42)	Improving the selection, training, and in-service education of those employed in the schools but who are not professional educators.

Note: Figures in parentheses are problem numbers.

Problem 8, "Educating Indians and Eskimos," was considered on the average to be the third least crucial problem, although here again the problem was placed at least once in all categories with a sprinkling of respondents suggesting the first five.

Problem 70, "Changing the sometimes irresponsible and unintelligent attitude of the press and of other mass media towards education," in being ranked seventy-seventh, was also considered as possessing relatively little cruciality.

Problem 78, ranked seventy-sixth, "Improving the quality of the writings of those in education," was also considered as not being particularly crucial when compared with the other seventy-five.

II. THE NEED FOR CARE IN INTERPRETING FINDINGS

This report perhaps departs from common practice in that, apart from the brief references in the preceding subsections, it contains no detailed discussion, speculation or analysis of the rankings assigned to the eighty problems individually. It is not that these considerations are unimportant but that the magnitude of the task -- a paragraph or more for each of eighty problems, not to mention groups of them, comparisons, or references to the literature -- precludes it. Instead, the interested reader, familiar with the report of this investigation, especially with Chapter III, can by a study of the numerous particulars given in Table XXII and Appendix P produce his own findings about the relative crucialities assigned.

In his interpretation it is suggested that the reader consider

the distribution of the ratings as well as the ranks. However, one should be wary of reading too much into the data. For example, consider Problem 73, "Obtaining more money for education." The median, 6.67, ranks this fifty-second, not a relatively crucial problem. Yet five respondents placed it in the first category and eighteen in one of the top four categories. One might suggest regional or provincial variations in opinion. However, consideration of the original protocols disclosed that these top five responses came one from each of five provinces, while in the top eighteen, eight of the provinces were represented. Furthermore, when the replies from Ontario, Alberta, and British Columbia, considered by some to be the 'have' provinces, were contrasted with the replies from the other seven provinces, and these two distributions then dichotomized at the joint median, each distribution split exactly in half, thus indicating no difference at all between the median rankings of the first three and the other seven provinces.

Again, care in making generalizations is essential, since, as Table XXXI shows, provincial representation in the sample is rather heavily loaded in favour of Ontario and Alberta.

III. SIGNIFICANT DIFFERENCES AMONG PROBLEM AREAS

Comparisons were made among the nine problem areas and the probabilities were calculated that the differences among their cruciality ratings were due to chance. For this there was first computed the median rating assigned by each respondent to the problem in each problem area.

TABLE XXXI

DISTRIBUTION BY PROVINCES OF THE SIXTY MEMBERS OF THE 1961 CEA
SHORT COURSE COMPLETING AND RETURNING CPEAC QUESTIONNAIRES

Province, etc.	Number of Respondents
Newfoundland	1
Nova Scotia	3
Prince Edward Island	2
New Brunswick	2
Quebec	4
Ontario	24
Manitoba	5
Saskatchewan	4
Alberta	10
British Columbia	4
Federal Government	1

These median ratings were then compared, first using the Friedman Two-Way Analysis of Variance by Ranks to ascertain the extent of overall differences. Then the ratings of each pair of areas were compared using the Wilcoxin Matched-Pairs Signed-Ranks Test.

The Analysis of Variance

Although, as indicated in Section IV of Chapter III, one could defend the use of parametric techniques in the analysis of the data supplied by the CPEAC Questionnaire, the Friedman test was used. Since the indications are that this compares favourably with the F test, the most powerful parametric test, it was considered unnecessary to make the assumptions requisite for the latter.²

A χ_r^2 of 136.35 was revealed. With eight degrees of freedom a χ^2 of 26.12 is significant at the .001 level. Thus, it was certainly in order to reject, beyond the .001 level of probability, the null hypothesis that the nine problem areas were samples from the same population. The chances were far fewer than one in one thousand that chance alone accounted for the differences among the median ratings assigned by respondents to problem areas.

Differences Between Pairs of Problem Areas

The knowledge that there are statistically significant differences

2

Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), 160 and 173.

in the ratings of problem areas as to their cruciality is less useful than knowing between which pairs these differences exist. The propriety of proceeding with such a detailed analysis after an overall analysis of variance, has, however, already been referred to in the previous chapter. Yet, here, as there, for the same reasons, and with the same warning, the decision was made to proceed with the analysis. The Wilcoxin Matched-Pairs Signed-Ranks Test alone was used, because the tables available for the Link-Wallace Short Cut to Allowances Method, while suitable for the data of Chapter V, were unsuitable here, since the tables were based on a maximum of twenty subjects whereas here there were sixty.³

As Table XXXII and Table XXXIII indicate, the use of the Wilcoxin test on the differences among the median ratings assigned problem areas suggested the existence of five statistically-separate groups of problem areas.⁴ The most highly rated of these groups consisted of three problem areas, the next of two, the third of one, the fourth of two, and the fifth or least highly rated of one problem area. It is interesting to note that the twenty individual problems

3

Frederick Mosteller and Robert R. Bush, "Selected Quantitative Techniques," Handbook of Social Psychology, Gardner Lindzey, editor (Reading, Mass.: Addison-Wesley Publishing Company, Inc., 1954), 306-7.

⁴The application to the data in Table XXXII of the rejection level of .0014, developed in Chapter V, footnote 9, reveals that the problem areas can be considered only as being divided into two statistically-separate main groupings -- the first five and the last four problem areas -- although differences approaching this level of significance support the propriety of discussing five groups.

TABLE XXXII

LEVELS OF STATISTICAL SIGNIFICANCE AMONG CRUCIALITY RATINGS
ASSIGNED PROBLEM AREAS

	OIS	RT	TMA	DWT	OPSB	FP	DCR	M
G	.40	.94	.04	.01	.0001	.0001	.0001	.0001
OIS		.99	.03	.02	.0001	.0001	.0001	.0001
RT			.05	.05	.0001	.0001	.0001	.0001
TMA				.76	.0001	.0002	.0001	.0001
DWT					.0001	.0001	.0001	.0001
OPSB						.06	.04	.001
FP							.44	.07
DCR								.01

Note: Differences here reported at the .0001 level are in most cases apparently significant far beyond that. The usual published tables of z list values to this level only.

TABLE XXXIII

PROBLEM AREAS ARRANGED BY GROUPS BETWEEN WHICH STATISTICALLY
SIGNIFICANT DIFFERENCES IN CRUCIALITY EXIST BUT WITHIN WHICH
THERE ARE NO SUCH DIFFERENCES

Groups Arranged by Cruciality	Problems Within Group
1	Guidance; Obtaining and Improving Staff; Research and Theory
2	Teaching Methods and Aids; Determining What to Teach
3	Organizing Pupils, Staff, Boards
4	Finances and Plant; Dividing and Co-ordinating Responsibility
5	Miscellaneous

rated most crucial are all found in the first two groups of problem areas. Groups will now be examined in more detail.

Group One. The three areas Guidance, Obtaining and Improving Staff, and Research and Theory, were rated as significantly more crucial than any of the six other problem areas. In eight of these twelve comparisons, the possibilities of differences being due to chance were less than one in ten thousand.

All five problems in the area Guidance were, as shown in Table XXII, rated relatively high, being assigned ranks of 20, 2, 19, 33, and 42. These rankings, when coupled with similarly high ranks assigned to the related problems -- numbers 15, 16, and 17 -- in the area Determining What to Teach, indicate that retaining and placing pupils, and providing for their individual differences, especially at the high-school level, were of serious concern to respondents.

The reason for the prominence of the problem area Obtaining and Improving Staff can be seen in that seven of the ten problems it contains were each ranked among the top twenty-five per cent with four of them among the top ten listed in Table XXIX. It seems that the Canadian educators represented by the 1961 CEA Short Course sample are very much concerned with the in-service and pre-service training of teachers, with recruitment, eliminating unfit teachers, measuring competence, assessing necessary qualifications, and with staff generally.

For the third problem area in this most crucial group, respondents considered particularly crucial problems of increasing the impact of research and theory on practice, and with providing more

adequate funds and personnel for research.

Group Two. The two problem areas Teaching Methods and Aids, and Determining What to Teach, while not rated as different from each other, were, as shown in Table XXXII, significantly more crucial than either of four other problem areas.

Table XXII points up that the nine problems under Teaching Methods and Aids were rather uniformly assigned ranks of 11, 25, 27.5, 29, 30, 31, 34, 49, and 55.5, indicating intermediate rather than top cruciality for this problem area.

While on the average the area Determining What to Teach is also assigned intermediate cruciality, concern can, again referring to Table XXII, be seen to focus in three different ways. First, in the top twenty per cent of problems were concerns for developing the ability in pupils to think critically, to adapt to the changing world, for "grounding Canadian education firmly in philosophy," and for meeting individual differences in pupils, a group of six problems assigned ranks of 1, 4, 8, 13, 14.5, and 16. Secondly, three problems in this area were placed in the bottom twenty per cent being ranked 80, 78, and 62. Nine other problems were in the intermediate ranks of from 24 to 55.

Group Three. The problem area Organizing Pupils, Staff, Boards, while less crucial than areas in the foregoing groups, was significantly more crucial, from Table XXXII, than either of Miscellaneous, Dividing and Co-ordinating Responsibility, and Finances and Plant. In this area the eleven problems were ranked rather uniformly in the middle and lower ranges of cruciality.

Group Four. The areas Finances and Plant, and Dividing and Co-ordinating Responsibility, were rated as relatively less crucial than all other areas except Miscellaneous.

The three problems under Finances and Plant were placed uniformly at the bottom half of the eighty problems, being assigned ranks of 52, 68.5, and 65. This, coupled with the rank of 66 assigned the related Problem 34, "Improving the Financial Position of Teachers," perhaps indicates that the population represented by the sample does not, on the whole, consider this area as particularly crucial.

Table XXII shows no individual problem under Dividing and Co-ordinating Responsibility that was markedly different from the general lack of relative cruciality assigned to this area.

Group Five. Problem 80, the only one in the area Miscellaneous, was ranked 73 by respondents and as such was significantly less crucial than all other problem areas.

IV. COMPARISONS WITH CHAPTER IV

Comparison of Table XXXIII with Table XII in Chapter IV reveals striking similarities and some equally striking differences.

Factors Contributing to Differences

Two major factors contributing to these differences appear to be the nature of the samples and the nature of the questionnaires. While Chapter VI is based solely on the 1961 CEA Short Course sample, Chapter IV draws about one-third of its responses from a number of professors of education, principals of teachers' colleges, and other similar people.

Perhaps even more important, in Chapter IV are analyzed spontaneous answers to a single open-ended question with comparatively less deliberate attempt by respondents at comparison of problems to select the most crucial. The responses in the present chapter were evoked by the forcing of each respondent to make a number of deliberate choices among an array which had been carefully constructed to contain all the crucial problems in educational administration. Therefore, these responses perhaps reflect less the worries of the moment, the troublesome trivia disturbing the tranquility of everyday life, but more the weighty long-range issues, the more truly crucial problems.

Similar Findings

Both tables agree in listing, among the areas occupying first place, Obtaining and Improving Staff, and both consign Finances and Plant to lower regions.

Differences in Findings

When respondents were faced with the forced-choice technique, the area Guidance was placed in the most crucial group. In the open-ended questionnaire this area ranked last.

Similarly, the area Research and Theory, not generally considered crucial in the first questionnaire, being mentioned by but twenty of eighty-eight respondents, was, in the second questionnaire, placed in the most crucial group of problem areas.

Dividing and Co-ordinating Responsibility, an area perhaps reflecting considerable everyday interpersonal, intergroup tensions,

was ranked among the first concerns in Chapter IV but the findings of the present chapter list it as having been relegated to a tie with Finances and Plant for last place -- with Miscellaneous omitted to make the two tables comparable.

Two less prominent shifts can be noted in the more elevated position accorded in Chapter VI to Teaching Methods and Aids, while the area Determining What to Teach, in Chapter IV accorded the first-place ranking, is now in the second group of problem areas.

V. SUMMARY

The eighty problems were ranked according to the median cruciality rating assigned by sixty members of the 1961 CEA Short Course, and the rating, rank, and distribution of each problem tabulated.

Problems ranked most crucial and those ranked least crucial were examined individually. "Developing in children inquiring and independent minds, powers of critical thinking, and self-reliance" was rated the most crucial of the eighty problems in educational administration in Canada. Second, in abbreviated form, was "Guiding pupils into programs in line with their capabilities despite the prestige attached to matriculation," while third, also abbreviated, was "Encouraging the professional growth of those already teaching."

On the other hand, "Providing for the religious growth of children," was on the average rated the least crucial problem. "Securing greater co-operation between public schools and separate schools, or

among denominational schools," was rated second least crucial and "Educating Indians and Eskimos" third least crucial.

Comparisons made among the nine problem areas revealed that these could be divided into five groups, each containing problem areas whose median ratings were statistically different from those of all areas in other groups at levels of significance ranging from .07 to .0001. The three problem areas Guidance, Obtaining and Improving Staff, and Research and Theory formed the most crucial group. Teaching Methods and Aids, and Determining What to Teach were the second most crucial group. Finances and Plant, and Dividing and Co-ordinating Responsibility were, apart from Miscellaneous, the least crucial group.

Comparisons of these problem-area ratings with those set forth in Chapter IV reveal a similar emphasis on Obtaining and Improving Staff, and a similar lack of cruciality assigned to Finances and Plant. Guidance, and Research and Theory were both accorded relatively more crucial ratings in the present chapter, but Dividing and Co-ordinating Responsibility less.

CHAPTER VII

RESEARCH PRIORITIES IN EDUCATIONAL ADMINISTRATION

The present chapter suggests research priorities in educational administration in Canada. It is to a large extent an attempt to collate the findings of the two previous chapters. Following a discussion of the criteria used, research priorities will be recommended, first for individual problems, then for the problem areas.

I. THE BASES FOR ASSIGNING RESEARCH PRIORITY

To maximize the payoff from research, three obvious criteria should be considered before grading problems and problem areas for research priority:

1. Cruciality. Other things being equal, the more crucial the problem the more attention it should receive from research workers.
2. Suitability. Other things being equal, the more suitable a problem is for research, that is, the easier research can be carried on and the more it can contribute to a solution, the more research should be concentrated on that problem.
3. Lag. The more research there has been done but not communicated to, nor put to use by, those in a position to apply it, the less should additional research be carried out, for the present, on that problem.

The succeeding analysis and recommendations are based on the first two

criteria but not on the third. The cruciality of a problem is the cruciality rank established in Chapter VI, its suitability for research the category assigned to it in Chapter V. Concerning the third criterion, the cruciality rank of 5 assigned Problem 77, "Increasing the impact of research on practice," indicates strongly that lags do exist between the research frontier and practice. While the measurement of that factor lies outside the scope of this investigation, the reader is, however, urged to be mindful ever of it when considering the recommendations of this chapter, which ignore it.

II. RESEARCH PRIORITIES OF INDIVIDUAL PROBLEMS

The System Used to Assign Priority

Table XXII has already been referred to as setting forth both the cruciality rank of each of the eighty problems and a rating of its suitability for research. Here, these data are combined to establish a somewhat arbitrary grading system, on the basis of which the research priority of each problem is established.

A five by three classification was set up as indicated in Table XXXIV containing five divisions by cruciality --ranks 1 - 10, 11 - 25, 25 - 55.5, 57 - 70, and 71 - 80 -- and three by suitability for research -- Very Suitable and Suitable, Difficult to Decide, and Unsuitable.

Five gradations of research priority were assigned. Into the top gradation were placed those problems which were Suitable or Very Suitable and which also had cruciality ranks of from 1 to 10. Assigned secondary research priority were those problems Suitable or Very

TABLE XXXIV

RESEARCH PRIORITIES AND THE SYSTEM USED TO ASSIGN THEM

Cruciality Ranks	Very Suitable or Suitable	Difficult to Decide	Unsuitable for Research
1 - 10	6 ¹	4 ³	--
11 - 25	9 ²	4 ⁴	2 ⁵
26 - 55.5	14 ³	14 ⁴	3 ⁵
57 - 70	5 ⁴	6 ⁴	3 ⁵
71 - 80	3 ⁵	3 ⁵	4 ⁵

Note: Regular figures indicate the number of problems in each cell, superscripts the research priority ratings assigned the problems therein -- the smaller the superscript, the higher the priority.

Suitable for research which had cruciality ranks from 11 to 25.

Tertiary research priority was accorded to two groups -- those ranked from 1 to 10 by cruciality whose suitability for research had been assessed as Difficult to Decide, and those ranked from 25 to 55.5 which had been judged Suitable or Very Suitable for research. The two remaining gradations are those to which priority is not really assigned at all. However, those which had been rated as Unsuitable for Research or which were among the bottom ten in cruciality, appearing to merit less consideration than the others that remained, were consigned to fifth or bottom gradation, while the remainder were placed in the fourth gradation.

Problems Deserving Top Research Priority

As the details of Table XXXV show, six problems could be placed in the top gradation of research priority. Assuming that among the ten most crucial problems one rated Very Suitable merits higher priority than one rated Suitable, the problem deserving the very highest research priority in educational administration in Canada is "Measuring teacher competence and performance." "Developing in children inquiring and independent minds, powers of critical thinking and self-reliance," becomes the second of eighty problems with respect to research priority. Third on a research priority list would come "Increasing the impact of research on practice." Also included among the top six are "Improving the competence of beginning teachers," "Providing suitable programs for talented children," and "Improving professional leadership in education."

TABLE XXXV

PROBLEMS DESERVING TOP RESEARCH PRIORITY

Problem Number	Abbreviated Problem Statement	Ratings as in Table XXII
38	Measuring teacher competence and performance.	V-6
1	Developing in children inquiring and independent minds, powers of critical thinking, and self-reliance.	S-1
77	Increasing the impact of research on practice.	S-5
40	Improving the competence of beginning teachers.	S-7
17	Providing suitable programs for talented children.	S-8
41	Improving professional leadership in education.	S-9

Note: Assuming that among the ten most crucial problems any problem rated Very Suitable deserves more priority than any rated Suitable, these problems are in order of priority.

It may be noted that of these six problems, three are in the area Obtaining and Improving Staff, two in Determining What to Teach, and one under Research and Theory.

Table XXXVI lists the nine problems next in research priority. These are drawn from six problem areas. Considering the two groups together, represented from one to four times is every problem area but two -- Miscellaneous, and Finances and Plant.

Reporting Research Priority

For easy reference, the gradations of research priority assigned to each problem have been marked in Table XXII. The top six problems are preceded each by three asterisks, those of the second gradation by two asterisks, and of the third by one. Since, relatively speaking very little advantage is gained by research into the eighteen problems of the fifth gradation -- those rated Unsuitable, or among the bottom ten on cruciality, or both -- this group is unmarked. A question mark precedes problems consigned to the fourth priority rating.

Research Valuable for Nearly all Problems

The evidence presented in the discussion of the validity of the CPEAC Questionnaire suggested that because of the way they were selected all problems were to some extent important, that none was trivial. Again, Chapter V reports that for every problem but one, at least one or two respondents considered it Suitable or Very Suitable for research. Thus, while the preceding analysis has differentiated between problems as to their research priority, there are indications

TABLE XXXVI

PROBLEMS DESERVING SECONDARY RESEARCH PRIORITY

Problem Number	Abbreviated Problem Statement	Ratings as in Table XXII
23	Improving testing procedures in classroom and school.	S-11
15	Providing secondary-school terminal programs for pupils of extremely low ability.	S-13
4	Preparing pupils to live in a changing world.	S-14.5
37	Determining the necessary qualifications of teachers.	S-17.5
30	Preventing pupils from becoming uninterested, truants, laggards, dropouts.	S-19
28	Improving the means of placing pupils in programs.	S-20
43	Deciding the extent to which the grade system should be modified.	S-21.5
59	Developing a sound role for the superintendent.	S-23
21	Evaluating the traditional methods in general use in classrooms.	S-25

Note: Assuming problems are of equal suitability for research, they are in order of priority.

that some worthwhile research can be done on virtually all problems.

III. RESEARCH PRIORITY OF PROBLEM AREAS

Comparison between the findings of Chapter V regarding the suitability for research of the nine problem areas and findings in Chapter VI regarding their cruciality reveals some very interesting data for an analysis of research priority.

The Findings

Guidance. High standings on the dual criteria, cruciality and suitability for research, suggest Guidance as the problem area for highest research priority. Considered along with one other area as more suitable for research at statistically significant levels than the other problem areas, it was also, again at statistically significant levels, considered along with two other areas as being the most crucial of the areas. Guidance was the only problem area ranking first on both criteria. Consequently, it alone was placed, as shown in Table XXXVII, in the grouping deserving first priority.

Obtaining and Improving Staff. Its suitability for research clearly placed by Table XXVI in the second of perhaps four groups, the problem area Obtaining and Improving Staff was on cruciality placed in the first group. This suggests a research priority for this area second only to that of Guidance.

Teaching Methods and Aids. Placed in the second group by the criterion cruciality, Teaching Methods and Aids was not considered

TABLE XXXVII

RELATIVE RESEARCH PRIORITIES OF PROBLEM AREAS

Problem Area	Priority Ranking
Guidance	1
Obtaining and Improving Staff; Teaching Methods and Aids	2
Organizing Pupils, Staff, Boards; Research and Theory; Determining What to Teach; Dividing and Co-ordinating Responsibility.	3
Finances and Plant; Miscellaneous	4

different from Guidance in its suitability for research. This suggests a research priority similar to that of Obtaining and Improving Staff.

Finances and Plant. The area Finances and Plant, placed in the least crucial group, (ignoring the single problem Miscellaneous), and in the group judged least suitable for research, is suggested by the data as being the area meriting least research priority.

Other Areas. Little research priority can be attached to either of the other areas as a whole since they place relatively low on one or the other or both criteria, except that they are suggested as meriting more priority than Finances and Plant. However, while to each of these areas as a whole little research priority may be assigned, certain specific problems in these areas have, in the preceding section, been suggested as deserving top or very high research priority.

IV. FURTHER ANALYSIS OF FINDINGS

Research Priority for Supervision

The preceding analysis of problem areas suggests high research priority for what in educational administration has traditionally been called "supervision" -- staffing, pupil guidance, methods -- rather than for "administration" -- finances and plant, organization, co-ordination, and control. Although this may seem attributable to the composition of the 1961 CEA Short Course sample -- mainly superintendents and inspectors --, to their experience, training and pre-occupation with their jobs, it is at most a contributory factor. If, ignoring the criterion cruciality, and,

therewith, those whose opinions manipulated it, one distributes priority solely on suitability for research, the top priorities would still be assigned first to Guidance, and Teaching Methods and Aids, and then, secondarily to Obtaining and Improving Staff. The only area to be added, according to the data of Table XXVI, and that of secondary priority, would be Organizing Pupils, Staff, Boards. Thus, research priorities have been established in areas dealing not with the "externa" as much as with the "interna", in areas directly related to the classroom, in the supervisory and instructional aspects of administration.

Can Research Help Solve Problems in Educational Administration?

The suggestion has at times been made that research may not be able to contribute appreciably to the solution of many of the important problems in educational administration, that these are, rather, matters of values, of politics. The findings of the present investigation do not support such a view.

Of the ten problems judged most crucial, not one was assigned a median rating Unsuitable for Research by the twelve research experts, and only four were classified as Difficult to Decide. Of the twenty-five problems judged most crucial there were but two rated as Unsuitable: "Grounding Canadian education firmly in philosophy with stable purposes and defined goals," and "Providing adequate facilities for educational research." Of the total of eighty problems, only twelve were classified as Unsuitable, two-thirds of them among the least crucial half of the list. Not one was assigned a median rating Very Unsuitable.

The data of this investigation indicate quite strongly that research can, in the averaged opinion of twelve research experts, contribute profitably to the solution of the problems in educational administration seen as relatively crucial by sixty members of the 1961 CEA Short Course, and that problems towards the solution of which the contribution of research would be negligible are, in general, those seen as not being relatively crucial.

V. SUMMARY

Two criteria --suitability for research, and cruciality -- were used to assign research priority. Individual problems were assigned to five gradations with six problems being classified in the top gradation of research priority and nine others in the second. "Measuring teacher competence and performance" was suggested as perhaps being worthy of the highest priority of any problem. "Developing in children inquiring and independent minds, powers of critical thinking, and self-reliance" and "Increasing the impact of research on practice" were indicated as being second and third. There was an indication that some worthwhile research could be done on nearly all problems.

High ratings on both criteria gave Guidance the highest priority rating of the problem areas. Obtaining and Improving Staff, and Teaching Methods and Aids were next. To Finances and Plant, and to Miscellaneous were given the lowest priority rating. Except for these two, all areas contained at least one specific problem which was rated among the top fifteen in research priority.

The analysis revealed that research priority tended to be assigned to those areas directly related to the classroom and "supervision" rather than to those aspects of educational administration referred to as the "externa."

Further analysis pointed out that the findings of the study did not support the view that research cannot contribute appreciably to the solution of many of the important problems in educational administration.

CHAPTER VIII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. PURPOSE AND PROCEDURES

This study was an attempt to establish research priorities in educational administration in Canada, and perhaps thereby both to increase the payoff from research and to provide graduate students with worthwhile research topics.

The method of investigation consisted of four distinct steps:

1. Identifying the crucial problems.
2. Establishing their relative cruciality.
3. Determining their suitability for research.
4. Recommending research priorities.

Identifying Crucial Problems

To establish just what the problems in educational administration in Canada were, a questionnaire was sent to the members of the 1961 CEA Short Course, to deans of education, principals of teachers' colleges, and professors of educational administration. Each person was asked to suggest the problem or problems he considered most crucial. From their suggestions and from an extensive and grueling search of the recent literature, a list of eighty problems, divided into nine problem areas, was eventually produced.

Establishing Relative Cruciality

Relative cruciality was established by having the members of the 1961 CEA Short Course respond to the CPEAC Questionnaire. This was an instrument especially designed for the study. It used the mechanics of the Q-Sort, a forced-choice technique, and consisted of eighty cards on each of which was printed a problem. Each respondent, according to his opinion of their cruciality, sorted the problems into eleven piles whose frequencies formed a normal-shaped distribution along a scale of eleven intervals. The relative cruciality of the problems was the rank order of the eighty medians, each computed from the distribution of a problem's ratings. Differences among the relative crucialities of the nine problem areas were, by nonparametric techniques, tested for statistical significance.

Determining Suitability for Research

Each problem's suitability for research -- that is, the ease of doing research coupled with the degree to which research seemed able to contribute to its solution -- was determined from the responses of twelve research experts to the Research Expert Questionnaire. This was a randomly-arranged list of the eighty problems. It requested the respondent to rate each problem on a five-point scale as to its suitability for research -- Very Suitable, Suitable, Difficult to Decide between Suitable and Unsuitable, Unsuitable, Very Unsuitable. For purposes of analysis a particular problem's rating on this criterion was considered to be the median category of the twelve responses.

Respondents suggested also the type of research that might be carried on. Nonparametric tests were used to determine the statistical significance of differences among problem areas as to their suitability for research.

Recommending Research Priorities

The research priority of a problem or a problem area was determined jointly by its relative cruciality and its suitability for research. Using these criteria problems were divided into five gradations, and problem areas into four gradations of research priority.

II. THE MAJOR FINDINGS

The findings of the present investigation should always be considered in relation to the samples from which the data were gathered, the instruments used to collect them and the procedures used in their analysis. The total effect of the investigation is, however a strong suggestion that research priority be assigned to those aspects of educational administration closely related to the classroom, to pupil guidance, staffing, and methods, rather than to its more external aspects of finance, plant, organization, co-ordination and control.

Problems Identified as Crucial

When the two hundred items suggested by eighty-eight respondents as crucial problems were arranged into eight problem areas, and the differences among the frequencies of respondents mentioning each were compared, four distinct groups of areas could be distinguished. The

frequency of mention of each area within each group differed at statistically significant levels from all the areas in every other group.

Group One. Significantly more respondents mentioned items in the problem areas Obtaining and Improving Staff, and Determining What to Teach than those in any other problem area. Chief concerns in the first area were with recruiting, selecting and training staff, with encouraging their professional development, defining and measuring their competence. Most frequently mentioned items in the area Determining What to Teach included meeting society's educational needs for people trained to live in a changing, technical world, and the curricular needs of specifying the tasks of the school, having a sound underlying philosophy, selecting content, and, especially, in providing for individual differences in pupils, particularly in high school.

Group Two. The second most frequently mentioned grouping was the problem area Dividing and Co-ordinating Responsibility. Concern focused first on the division of responsibility among the many groups and individuals involved in education, especially on local-provincial control, on which official should supervise instruction, on professional-lay responsibility. Another aspect of the problem was effecting harmonious relations, particularly in gaining public confidence and support.

Group Three. The four problem areas immediately following were mentioned less frequently than all other areas except Guidance. Under Organizing Pupils, Staff, Boards, the more commonly-suggested items were improving school board operation, evaluating new ideas in utilizing staff,

modifying the grade system, determining the optimum size of schools, and rural centralization. Responses under Finances and Plant placed very great stress on the need for more money, also noting the need for higher teachers' salaries, the relationship between financing and controlling, between public relations and finance. The need for federal aid was discussed. Respondents mentioning the area Teaching Methods and Aids wrote especially of the importance of evaluating the new media and for developing better classroom practice. In the area Research and Theory two crucial problems were most often seen -- increasing the impact of research and theory on practice, and the need for more research. Indeed, the expectations of some respondents as to the ability of research to solve educational problems were seen to be, conservatively speaking, extremely high.

Group Four. Under Guidance, the least frequently mentioned area, the only oft-expressed concern was with dropouts.

Comparison with Other Studies. The findings of this phase of the investigation with respect to the front-line position of concerns for staffing and programming seemed to be supported by the reported findings of the three other studies examined.

The Relative Cruciality of Problems

The responses to the CPEAC Questionnaire reveal the cruciality to a sample of superintendents, inspectors, and supervisors, of problems closely related to instruction.

Problem Areas. The nine problem areas were found to be divisible

into five groups, the areas in each of which had median cruciality ratings different, at levels of statistical significance ranging from .07 to .0001, from those of all problem areas in other groups.

The three most crucial problem areas, comprising the first group, were Guidance, Obtaining and Improving Staff, and Research and Theory. Of secondary cruciality were the two areas Teaching Methods and Aids, and Determining What to Teach. Finances and Plant, and Dividing and Co-ordinating Responsibility, were, apart from Miscellaneous, the least crucial group. Forming the third and middle group was Organizing Pupils, Staff, Boards.

Comparison with Problems Identified as Crucial

These findings -- the differences in relative cruciality of problem areas as based on median ratings assigned by sixty members of the 1961 CEA Short Course -- may be compared to those of the preceding section -- the differences in frequencies of mention of problem areas by a sample composed of deans of education, professors of educational administration, principals of teachers' colleges, and members of the 1961 CEA Short Course.

The comparison reveals that both phases of the investigation emphasized the cruciality of Obtaining and Improving Staff, a finding supported by the three studies to which reference has already been made, and the lack of cruciality assigned to Finances and Plant. Some striking differences are noticeable also. Guidance, especially, but also Research and Theory, and, to a lesser degree, Teaching Methods and Aids were placed in higher groupings in the second than in the first

phase. The opposite happened to Dividing and Co-ordinating Responsibility, and, in a smaller way, to Determining What to Teach.

While differences in the composition of samples may account for some part of these differences in ranking, the second questionnaire's being a forced-choice type as opposed to the open-ended nature of the first may have a great deal to do with them. Responses to the second questionnaire, and thereby the ranking of problem areas, represent, unlike responses and rankings from the first, not so much spontaneous opinion as careful judgment, weighed comparison, the long-range perspective of respondents. Where apparent differences exist between findings of the two phases of the investigation, those of the second, representing the more-considered opinions, should perhaps be taken.

Individual Problems. The problem judged by respondents to be the most crucial in educational administration in Canada was "Developing in children inquiring and independent minds, powers of critical thinking, and self-reliance," the second being "Guiding pupils into programs in line with their capabilities" and the third "Encouraging the professional growth of those already teaching." The least crucial of the eighty problems was "Providing for the religious growth of children," second last was "Securing greater co-operation between public schools and separate schools or among denominational schools" and the third-last "Educating Indians and Eskimos."

The twenty problems judged most crucial were all in the first two groups of problem areas, the twenty least crucial scattered throughout all of them. This provides further evidence of respondents' concern

with staffing, pupil guidance, programming, methods, and research rather than with the "externa", with finances, organization, co-ordination and control.

The Suitability of Problems for Research

Responses from research experts indicated that in their opinions much worthwhile research, especially of a survey or experimental nature, could be carried out for many of the problems.

Individual Problems. Of the eighty problems, four were assigned the median rating Very Suitable for research, thirty-three classed as Suitable, and twelve Unsuitable. The remaining thirty-one were Difficult to Decide between Suitable and Unsuitable. For every problem but one, however, at least one, and usually two or more, respondents considered it Suitable or Very Suitable for research.

Problem Areas. The application of nonparametric statistical techniques revealed significant differences among the median ratings assigned problem areas. Teaching Methods and Aids, and Guidance were considered more suitable for research than the other problem areas. Finances and Plant was rated less suitable than all but one of the other problem areas. There were indications that Obtaining and Improving Staff, and Organizing Pupils, Staff, Boards were more suitable than all but the first two areas. However, every area but Finances and Plant, and Miscellaneous, contained one or more problems whose median rating was Suitable or Very Suitable. On the whole, research experts tended to emphasize as suitable for research virtually the same problem areas as had been considered crucial by the members of the 1961 CEA

Short Course.

Types of Research. Respondents tended not to recommend Philosophical and especially Historical research, but rather to suggest surveys and experiments. At least one of the four types was recommended for each problem.

Research Priorities

Research priority was assigned to problems and to problem areas by applying the two criteria cruciality and suitability for research. A third factor, outside the scope of the present investigation but important to bear in mind since its tendency when assessed would be to reduce cruciality, is the lag between research and practice.

Individual Problems. The highest of the five gradations of research priority into which problems had been divided contained six problems all within the top ten most crucial and all rated Suitable or Very Suitable for research.

The problem awarded highest research priority was "Measuring teacher competence and performance," with "Developing in children inquiring and independent minds, powers of critical thinking and self-reliance" second, and "Increasing the impact of research on practice" third.

Into the second gradation of research priority went nine problems all with cruciality ranks from eleven to twenty-five, and rated Suitable or Very Suitable for research. The top fifteen problems in research priority were drawn from all problem areas except Finances and Plant, and Miscellaneous. Eighteen problems were placed in the third gradation

and merited some research priority. To the fifth gradation, consisting also of eighteen problems either rated among the last ten by cruciality or judged Unsuitable, no research priority was assigned and very little more to the twenty-nine problems in the fourth gradation.

Problem Areas. Highest priority among problem areas was assigned to Guidance, in the highest category in both cruciality and in suitability. Obtaining and Improving Staff, and Teaching Methods and Aids, were grouped together as deserving secondary priority. Little research priority could be assigned to the other problem areas for they ranked relatively low on one or both criteria, although certain specific problems in these areas, as has already been stated, merited top priority. The areas Finance and Plant, and Miscellaneous, by their low ratings on both criteria and by their not including any specific priority problems, are suggested by the data as deserving the least attention from research.

Research Can Help Solve Problems. Comparison of suitability ratings with cruciality ranks suggested strong evidence to reject the view that research cannot contribute appreciably to the solution of many of the important problems in educational administration.

III. RECOMMENDATIONS

A number of recommendations emerge from the data presented and analyzed in this investigation.

Research Priorities

Research in educational administration in Canada, whether the theses of graduate students or other investigations, should, in order that its payoff be maximized, be concentrated on those problems and problem areas where priority has been assigned.

Problems. Problems especially meriting the attention of research workers are those fifteen accorded primary and secondary priority because they had been ranked among the twenty-five most crucial of eighty problems and rated Suitable or Very Suitable for research. Research workers should be particularly discouraged from tackling a problem towards whose solution research had been seen as unable to contribute anything worthwhile, and which had not been considered as relatively crucial. Such problems are the forty-seven of the eighty placed by this study in the fourth and fifth gradations of priority.

Problem Areas. Research should not focus on the area Finances and Plant -- rated neither relatively crucial nor suitable for research -- but should converge rather on the areas Obtaining and Improving Staff, Teaching Methods and Aids, and, especially, Guidance. It should not in general spend its resources in the areas Determining What to Teach, Research and Theory, Dividing and Co-ordinating Responsibility, or Organizing Pupils, Staff, Boards, although certain specific problems in these four areas, already recommended among the top fifteen, merit special attention.

More Research

The findings of this investigation point unequivocally to the

need for more research in educational administration. First, research can in the opinion of experts contribute to the solution of those problems considered most crucial by members of the 1961 CEA Short Course. The high cruciality ranks assigned to three problems in the area Research and Theory - - 14.5 to "Providing adequate funds and personnel for educational research," 5 to "Increasing the impact of research on practice" and 17.5 to "Developing sound theory and getting it into practice" -- support this need, as do the suggestions for more research, by respondents to the first questionnaire.

It is recommended therefore that more of the nation's resources in personnel and materiel be mobilized to produce more of the needed research. Whereas to date research in educational administration has been to a large extent dependent on the generosity and good will of industrial concerns, particularly on bequests, it is recommended that the future see those with officially closer connections with the conduct of education accept their obligations to research.

First, provincial departments of education should expand their research activities, by establishing, if they have not already done so, their own research divisions, by extending the scope of existing divisions beyond the analysis of examination results, and, perhaps most important, by making available equipment and money to other agencies and research workers seeking answers to those problems which are by constitutional law the responsibility of provincial governments.

Secondly, providing the wherewithal for research would enable the Government of Canada to contribute to education in a manner perhaps least

offensive to the provisions and spirit of the British North America Act. Just as there is the National Research Council for the physical sciences, the Canada Council for belles-lettres and certain social sciences, so there should be an Educational Research Council, enabling the financial resources of the nation to be funnelled by a quasi-independent body on the investigation for solution of priority problems in the administration of Canadian education.¹

Thirdly, local school systems should sponsor research either by establishing their own research arms, as boards in Toronto, Vancouver, etc., have done, or by making grants available to research workers.

Fourthly, associations of teachers, principals, superintendents, trustees, etc., should, especially at the provincial level, increase their research activities either by hiring research officials, where there are none already, by providing money to research workers in universities and elsewhere, by encouraging, through the provision of expert assistance, equipment and funds, more research by their own members.

Finally, universities, now responsible for training a substantial proportion of the professional educators in Canada, and with enrollments in faculties of education making up large proportions of their graduate and undergraduate student populations, should increase the proportion of their resources devoted to researching education, including the problems

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H. P. Moffatt, "Education in Revolution." The B. C. Teacher XXXIX (May-June, 1960), 385.

faced in its administration. In particular, more universities should enable more staff to be engaged in educational research, some full-time, others on a part-time basis.

In brief, what is recommended is an enormous expansion in personnel and other resources devoted to the investigation of those many problems in administering education which have been shown to be suitable for research.

The Lag Between Research and Practice

If a problem is relatively crucial, and if research can contribute appreciably towards its solution, it obviously merits research priority. However, suppose the necessary research has already been conducted, has already indicated its contribution, but that since its report reposes on the shelf of a university library or since it conveys meaning only to an esoteric few, neither the research nor its answer is known. Then what is needed, is not further research but better communication, the reduction of the lag between research and practice.

The members of the 1961 CEA Short Course, by rating, "Increasing the impact of research on practice" as the fifth most crucial problem strongly suggested the existence of lag. Therefore, it is recommended that, in addition to the study of lag suggested in Section IV of this chapter, several steps be taken to have research findings which can lead to the solution of crucial problems in educational administration made known to those in positions to apply them.

First, every professional educator should be able to read with

understanding the research pertaining to his field. This suggests more emphasis in the undergraduate curriculum on statistics, measurement, and research methods, more graduate study, more specially-designed in-service training programs and more involvement of educators in research, even action research. School trustees and other non-professionals with administrative responsibilities in education should at least be aware of the importance of research, the kinds of contribution it can make, and those it cannot make.

Secondly, research findings should be readily available to potential consumers. This suggests the publication of condensations where they can be widely read rather than exclusively in journals with a small and completely academic circulation. It is suggested that the Canadian Teachers' Federation, since it is the national organization with most members, distribute regularly for publication in the magazines of its provincial affiliates reviews of current research, and that these reviews, or the magazines, be made available to other educators. Other organizations also, such as the Canadian Education Association, or the Canadian Association of School Superintendents and Inspectors, could perform a valuable service by establishing committees and providing the necessary personnel to summarize research findings with respect to certain problems or problem areas, by publishing them as monographs or yearbooks, and especially by distributing them widely, far beyond the limited membership of their own associations.

Thirdly, it is suggested that just as the potential consumer of research has the obligation to be able to read research in his field, so

too may the research worker have an equal obligation to his consuming public to initiate communications in language as exoteric as possible, devoid of any unnecessary technical jargon, and to point out what appear to him to be the implications of his research.

A fourth recommendation for reducing lag is to have those who consume research produce more of it.

Planning the Strategies of Research

Establishing research priority is but the first step in the campaign for research efficiency. It must lead to appropriate action. The second step is deploying existing personnel and materiel, and securing necessary additional resources. This suggests the need for an overall planning board which administers research in educational administration, which sees that research priorities are continually being established and revised, that problems are suggested to research workers and research agencies, that the necessary resources are available to them, that their findings are collected and disseminated.

It is recommended that these functions be performed either by an organization or association established especially to perform them -- perhaps the Educational Research Council suggested previously -- or by some existing body such as the Canadian Council for Research in Education. The constitutional aims of the latter organization would appear to enable it to fulfill the roles suggested here.²

²The objects of the Canadian Council for Research in Education are listed in: G. M. Dunlop, "Educational Research in Canada: Today and Tomorrow," Second Canadian Conference on Educational Research, C. P. Collins, editor (Toronto: The Canadian Education Association, 1961), 3.

It is not suggested however that no research take place except that suggested and financed by the central planning body.

While it is also not advocated that the knell be sounded for one of the few remaining areas of the free enterprise era -- graduate research in educational administration -- it is suggested that students be guided into investigating priority problems rather than studies neat, little, and isolated. In order that the procedures and scope of an investigation be dictated by the needs of the problem and by research priorities, more than by the time budget of the student, it is suggested that the thesis requirement be more flexible, with studies more difficult, more time-consuming or more comprehensive, perhaps receiving more or different degree credit from those demanding less from the research worker.

Research Roles for Educational Administration

It is obvious that the problems and problem areas analyzed in this study fall within the scope of educational administration as it has been here defined. It is clear also that the size of faculties of education has meant their increasing subdivision into specialized areas of study such as educational philosophy, sociological foundations, educational psychology, guidance, elementary education, curriculum, and school law. Many of the problems established by this investigation as crucial to administrators fall also within the scope of these specialties, and other disciplines. Which one, or ones, a particular problem is related to would depend in part on the manner the particular faculty of

education, or university, is presently organized.

While one would hope to avoid the twin evils of jurisdictional bickering and duplication, it is essential that educational administration ensure that the problems crucial to it are solved, using whatever means, including research, that are appropriate.

An important role for educational administration, then, should be to see to it that research make its maximum contribution to the solution of the problems involved in conducting education towards its goals and in defining these goals -- the two fundamental responsibilities of educational administration.

Where research facilities exist under labels other than educational administration, these should be encouraged, by the allocation to them of resources, to tackle relevant problems of school systems. Thus, school boards, provincial departments of education, school superintendents, etc., should promote research into the problems they face by making grants available to and co-operating with research workers of any specialty that seems able to contribute to the solution of these problems. Similarly, university departments of educational administration should join with educational specialties and other disciplines in conducting research of mutual interest.

Where other agencies do not exist, or where they do not investigate the problems crucial to the conduct of education, then educational administration should itself carry out whatever research it deems necessary. Charged with the solution of problems that emerge in the discharge of its responsibility, educational administration, including

university departments of educational administration, may sometimes have no alternative but to carry out investigations in areas hitherto reserved for others, even to the extent of developing any special competencies that are necessary. Since the problems crucial to it extend beyond its traditional research areas of the "external", leadership roles, etc., it must enlarge the scope of its research.

Perhaps the major pre-occupation should be, not with defining areas of competency, scope and jurisdiction, but in getting performed and distributed the research that is necessary to help solve the problems that are important.³

IV. NEEDED RESEARCH

Two groups of studies are seen as growing out of the present one: those needed to extend, beyond the delimitations of this investigation, knowledge of research priorities in educational administration in Canada, and those made possible by the creation of the CPEAC Questionnaire or necessary for its further development.

Research Priorities

Relative cruciality ratings assigned here to important problems in educational administration were based solely on the ratings by the

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For an interesting and pertinent discussion of some of these matters, the reader is referred to: John H. M. Andrews, "Research Needs in Educational Administration", Second Canadian Conference on Educational Research, C. P. Collins, editor (Toronto: The Canadian Education Association, 1961), 61-69.

1961 CEA Short Course membership, a group composed chiefly of superintendents of education and school inspectors. Further research should be performed, perhaps using the same instrument, to determine the relative crucialities that would be assigned by other interested groups -- deputy ministers, trustees, secretary-treasurers, principals, parents, teachers, citizens in general. Comparisons could be made among their rankings and the differences examined. Composite cruciality ratings should be established also.

Whereas the present investigation was on a national scale, studies should be performed to determine provincial or regional crucialities and research priorities.

Of the three major factors affecting research priority -- cruciality, suitability for research, and the lag between research and practice -- the extent of the third was not measured in this investigation. There should be studied the extent to which lag exists among various problem areas, and among whom it exists. The procedure used might consist of a series of structured interviews or questionnaires designed to reveal knowledge about and application of research findings, both ancient and modern, by various groups, and by provinces.

CPEAC Q Studies

The CPEAC Questionnaire has to date proven to be an instrument of somewhat high reliability, and the indications are that it enables a respondent to portray validly his perceptions of the relative crucialities of problems in educational administration.

Research should be performed to assess its usefulness in a number of related areas.

1. A respondent may be asked to use any one of a number of criteria in sorting the problems of the CPEAC Q. The present investigation asked him to sort them "according to the degree to which you, in the light of your experience, consider each problem crucial." One might have requested him to sort them "according to how a high-school principal should sort them" or "how the teachers on your staff would consider them" or "how the deputy-minister would want you to sort them." It is suggested then that this tool can be useful in determining a man's perception of his job, his perceptions of the actual or ideal perceptions of others, his perceptions of the expectations of others for him.

2. Examination of the way an administrator sorts the problems of the CPEAC Q., which ones he places most crucial, which ones least, gives a comprehensive picture of his outlook on education, can reveal his frame of reference for the job. Consequently, it may have possibilities as a selection device.

3. By using before-and-after sortings, and considering the differences as changes in perceptions, it can be used to provide a measure of the effectiveness of graduate or undergraduate programs in administration, of principals' and superintendents' short courses, etc.

4. Its use as a clinical instrument to pinpoint, in surveys of school systems, areas of conflict between various persons or groups, should be examined.

5. It may be of some value as one of the kit of tools -- the

L. B. D. Q.,⁴ the T. P. E. Opinionnaire,⁵ various psychological tests -- for use in studies of the effectiveness of leadership.

Research should be performed to assess the effectiveness of this instrument in each of the suggested areas and where necessary to improve it, refine it, adapt it.

V. CONCLUDING STATEMENT

The intricacies of educational administration in Canada, the many varieties of practice, outlook and philosophy make exhilarating the task of the research worker and secure him from the pitfall, otherwise possible, of confusing what generally is with what ought to be. Yet it is sometimes difficult to distinguish the essential pattern through the variations. It is perhaps fitting that the science of conducting an enterprise towards its goals administer research towards the knowledge of its essence as efficiently as possible. If this study has made even the slightest contribution towards that end it will have been worthwhile.

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Andrew W. Halpin, The Leadership Behavior of School Superintendents (SCDS Monograph Series Number Four. Columbus, Ohio: College of Education, The Ohio State University, 1956).

5

Lawrence W. Downey, The Task of Public Education (Studies in Educational Administration. Chicago: Midwest Administration Centre, The University of Chicago, 1960).

SELECTED BIBLIOGRAPHY

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A. BOOKS

- Andrews, John H. M. Tasks of Public Schools: Public and Professional Opinion. Projects in Canadian School Administration No. 4. Edmonton: Division of Educational Administration, University of Alberta, 1959.
- Brehaut, Willard. A Quarter Century of Educational Research in Canada: An Analysis of Dissertations (English) in Education Accepted by Canadian Universities, 1930-1955. Information Series No. 10. Toronto: Department of Educational Research, Ontario College of Education, University of Toronto, 1958.
- Canadian Education Association Invitational Conference in Educational Research. Toronto: The Canadian Education Association, 1959.
- Cochran, William G. and Gertrude M. Cox. Experimental Designs. New York: John Wiley & Sons, Inc., 1950.
- Collins, C. P. (ed.). Research in Education. Conference Study No. 7. Ottawa: Canadian Conference on Education, 1961.
- _____. (ed.). Second Canadian Conference on Educational Research. Toronto: The Canadian Education Association, 1961.
- Downey, Lawrence W. The Task of Public Education: The Perceptions of People. Studies in Educational Administration. Chicago: Midwest Administration Center, The University of Chicago, 1960.
- Edwards, Allen L. Experimental Design in Psychological Research. Revised edition. New York: Holt, Rinehart and Winston, 1960.
- Federer, Walter T. Experimental Design: Theory and Application. New York: The Macmillan Company, 1955.
- Ferguson, George A. Statistical Analysis in Psychology and Education. New York: McGraw-Hill Book Company, Inc., 1959.
- Formative Committee, Educational Research Section, Ontario Educational Association. Research in Education. Educational Research Series No. 27. Toronto: The Department of Educational Research, Ontario College of Education, University of Toronto, 1954.
- Garrett, Henry E. Statistics in Psychology and Education. Fifth edition. New York: Longmans, Green and Co., 1958.

- Gross, Neal. Who Runs Our Schools ? New York: John Wiley & Sons, Inc., 1958.
- Guilford, Joy P. Fundamental Statistics in Psychology and Education. Third edition. New York: McGraw-Hill Book Company, Inc., 1956.
- Halpin, Andrew W. The Leadership Behavior of School Superintendents. School-Community Development Study Monograph Series Number Four. Columbus, Ohio: College of Education, The Ohio State University, 1956.
- Hollingshead, August B. Elmtown's Youth. New York: John Wiley & Sons, Inc., 1949.
- McNemar, Quinn. Psychological Statistics. Second edition. New York: John Wiley & Sons, Inc., 1955.
- Research Division, Canadian Teachers' Federation. The Role of the Classroom Teacher in Educational Research. Ottawa: Research Division, Canadian Teachers' Federation, 1961.
- Selltiz, Claire, et. al. Research Methods in Social Relations. Revised edition. New York: Henry Holt and Company, Inc., 1959.
- Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, Inc., 1956.
- Stephenson, William. The Study of Behavior: Q-Technique and Its Methodology. Chicago: The University of Chicago Press, 1953.
- Wert, James E., C.O. Neidt, and J.S. Ahmann. Statistical Methods in Educational and Psychological Research. New York: Appleton-Century-Crofts, Inc., 1954.

B. PERIODICALS

- Andrews, J. H. M. "Recent Research in Leadership," Canadian Education, XIII (September, 1958), 15-24.
- Ayers, J. D. "Educational Research in Teachers' Organizations," Canadian Education, IX (March, 1954), 41-48.
- Bilodeau, C. "Educational Research in French Canada," Canadian Education, IX (March, 1954), 32-40.
- Brehaut, Willard. "Canadian Education Theses--Bane or Boon?" Canadian Education, XIV (March, 1959), 49-54.

- _____. "Educational Research in Canada, 1956-1958," Canadian Education, XV (June, 1960), 37-40.
- Brother Luke. "Educational Research at St. George Institute," Canadian Education, VII (December, 1951), 70-71.
- "Canadian Council for Research in Education," The Canadian Education Association News Letter, No. 155 (March, 1961), 4.
- Canadian Education Association. "Developments in Education in Canada, 1957-1958," Canadian Education, XIV (March, 1959), 16-25.
- Coladarci, A. P., E. Brooks and W. R. Odell. "Research Priorities in Educational Administration," Journal of Educational Research, XLVII (April, 1954), 625-30.
- Collins, C. P. "Annual Report of the Research and Information Division," Canadian Education, XVI (December, 1960), 67-69.
- Conway, C. B. "The B. C. Division of Tests, Standards and Research," The Educational Record of the Province of Quebec, LXXVI (January - March, 1960), 43-48.
- "A Critical Look at Educational Research," Canadian Teachers' Federation News Letter, XVI (October, 1960), 6.
- Croskery, George G. "Needs in Educational Research," Canadian Education, VII (December, 1951), 66-69.
- Duncan, David B. "Multiple Range and Multiple F Tests," Biometrics, XI (1955), 1-42.
- _____. "Multiple Range Tests for Correlated and Heteroscedastic Means," Biometrics, XIII (1957), 164-76.
- Dunlop, G. M. "Educational Research in Alberta," Canadian Education, IX (March, 1954), 18-25.
- _____. "Research in Educational Administration and Supervision," Canadian Education, VIII (September, 1953), 41-44.
- "Education Research Council," The Canadian Education Association News Letter, No. 148 (May-June, 1960), 1.
- "Educational Research Council," The Canadian Education Association News Letter, No. 146 (March, 1960), 5.
- "The Federation at Work," The B. C. Teacher, XL (April, 1961), 366-70.

- Harris, R. S. "The Ontario Educational Research Council," The Argus, XX (January, 1961), 11 and 38-39.
- Katz, Joseph. "Opportunities for Educational Research in Manitoba," The University of Manitoba Faculty of Education Research Bulletin, No. 19 (December, 1955), 47-49.
- _____. "The Status of Educational Research in Canada, 1957-1959," Canadian Research Digest, V (Winter, 1960), 1-11.
- Long, J. A. "Research in the Ontario College of Education," Canadian Education, IX (March, 1954), 26-28.
- _____. "The Role of Research in Education," Canadian Education, IX (March, 1954), 5-8.
- Lorimer, W. C. "The Role of Research in an Urban School System," Canadian Education, IX (March, 1954), 49-57.
- Moffatt, H. P. "Education in Revolution," The B. C. Teacher, XXXIX (May-June, 1960), 380-85, 398-99.
- _____, et al. "Needs in Educational Research," Canadian Education, XIV (December, 1958), 20-26.
- Moore, Hollis A. Jr. "Blind Spots in In-Service Education for Administrators," The Nation's Schools, LI (April, 1953), 43-46.
- Newfield, George M. "Research to the Rescue," The Manitoba Teacher, XXXVIII (March-April, 1960), 18-27.
- Ogg, Terrell Wilbur. "A Study of Procedures Used in Meeting Administrative Problems in the Schools of Texas with 2000 to 6500 in Average Daily Attendance," Dissertation Abstracts, XIX (1958-59), 262.
- "Report to the Imperial Oil Limited," Canadian Education, XV (December, 1959), 45-47.
- "Research in Provincial Organizations," Canadian Teachers' Federation News Letter, XVI (December, 1960), 4.
- Stein, Harry L. "Needs and Dimensions of Research," Phi Delta Kappan, XXXVII (April, 1956), 316-17.
- Stewart, F. K. "Secretary's Report," Canadian Education, XVI (December, 1960), 55-85.
- "Summaries of Graduate Theses in Education 1959," Canadian Education, XV (June, 1960), 41-84.

- "Summaries of Graduate Theses in Education, 1960," Canadian Education and Research Digest, I (June, 1961), 43-72.
- "Survey of Educational Research in Canada 1953 to 1955-56," Ontario Journal of Educational Research, I (October, 1958), 1-140.
- Taylor, Harris Albert. "An Analysis of Doctoral Research Problems in School Administration," Dissertation Abstracts, XIV (1954), 2259-60.
- Teal, Hal Case. "Attitudes of Selected School Board Members Concerning Problems Facing Public Education," Dissertation Abstracts XVI (1956), 2375.
- Tukey, J. W. "Comparing Individual Means in the Analysis of Variance," Biometrics, V (1949), 99-114.
- Webster, D. A. "Playing by Ear," The B. C. Teacher, XL (March, 1961), 293-94.
- Whitworth, F. E. "The Education Division, Dominion Bureau of Statistics," Canadian Education, VII (September, 1952), 3-14.
- _____. "Is Research in Education Lagging ?" Ontario Journal of Educational Research, III (October, 1960), 1-8.

C. ESSAYS AND ARTICLES IN COLLECTIONS

- Collins, C.P. "Educational Research in Canada," Education. Volume 3. Toronto: W. J. Gage Limited, 1960. Pp. 101-6.
- Cronbach, Lee J. "Correlation between Persons as a Research Tool," Psychotherapy: Theory and Research, O. H. Mowrer, editor. New York: The Ronald Press Company, 1953. Pp. 376-88.
- Halpin, Andrew W. "A Paradigm for Research on Administrator Behavior," Administrative Behavior in Education, R. F. Campbell and R. T. Gregg, editors. New York: Harper & Brothers, 1957, Pp. 155-99.
- Johnson, L. W. "What Administrators Want and Will Use from Research Workers," American Educational Research Association 1949 Official Report, 7-12, cited by Coladarci, A. P., E. Brooks and W. R. Odell, "Research Priorities in Educational Administration," Journal of Educational Research, XLVII (April, 1954), 625-30.

Mosteller, Frederick and Robert R. Bush. "Selected Quantitative Techniques," Handbook of Social Psychology, Gardner Lindzey, editor. 2 vols. Reading, Mass.: Addison-Wesley Publishing Company, Inc., 1954. Pp. 289-334.

Mowrer, O. H. " 'Q Technique' -- Description, History, and Critique," Psychotherapy: Theory and Research, O. H. Mowrer, editor. New York: The Ronald Press Company, 1953. Pp. 316-75.

D. UNPUBLISHED MATERIALS

Kelland, Newman. "A Study of the Prestige of Certain Aspects of the Educational Program in Alberta Composite High Schools." Unpublished Master's thesis, The University of Alberta, 1959.

APPENDICES

APPENDIX A

LETTER OF INTRODUCTION FROM DIVISIONAL CHAIRMAN,
WHICH ACCOMPANIED FIRST QUESTIONNAIRE

Division of Educational
Administration
University of Alberta
Edmonton, Alberta
May 12, 1961.

Dear Sir:

We solicit your help in carrying out what we believe to be a worthwhile research study.

Every year in Canada there is a growing amount of research being done by the Canadian Education Association, the Canadian Teachers' Federation, provincial research organizations, by staff members of universities and by graduate students in education. A large proportion of this is in the field of administration and supervision. We feel that it is quite important that the problems tackled by graduate students and by others should contribute as much as possible to the solution of some of the more pressing problems facing Canadian educators today.

The present study is being done by one of our graduate students who is concerned with identifying the problems of general and crucial importance in the administration of Canadian schools, and with selecting from among them those which are suitable for research. Mr. Kitchen is particularly interested in providing graduate students with a blueprint of research needs in Canadian education. Any help you can give him will be appreciated.

Yours sincerely,

A. W. Reeves
Divisional Chairman

APPENDIX B

LETTER OF INSTRUCTIONS, ACCOMPANYING FIRST QUESTIONNAIRE

11127 - 83 Avenue
Edmonton, Alberta

May 12, 1961

Dear Sir:

Before indicating how you can help us, I would like to tell you more about our project. We are attempting to find out, chiefly from two groups--the members of the 1961 CEA Short Course for School Superintendents, and a number of professors of education --just what the crucial problems are that face Canadian educators. Later we shall see if these problems are widespread and if research can aid in their solution.

In order to get at this first problem, we are asking you to answer the single question posed on the next page. Your answer may be written below the question, and, if necessary, continued on the reverse side, or on additional paper. Please detach your answer and return it to me. There is no need to sign your name, although you may.

Thank you very much for your assistance. When the study is completed, I will be pleased to send you a summary.

Yours sincerely,

Hubert W. Kitchen

APPENDIX C

THE FIRST QUESTIONNAIRE

THE QUESTION

As you consider the presently unresolved problems faced by persons in positions of leadership in school systems, which one, or ones, do you, in the light of your experience, consider most crucial ?

APPENDIX D

FOLLOW-UP LETTER FOR THE FIRST QUESTIONNAIRE

11127 83 Avenue
Edmonton, Alberta

May 26, 1961

Dear

Just recently we sent you a questionnaire concerning research and the crucial problems facing leaders in Canadian education. We are happy to report that a sizable number of those contacted have responded, giving us some extremely valuable insights into actual problem areas. It appears that we have not yet, however, received a reply from you. No doubt the pressure of examinations and of other year-end events have prevented some university and training college people from writing. Similarly, some members of the CEA Short Course may have left their usual haunts before the questionnaire arrived.

Yet, to make this study the most worth, we would like an answer to our question from everybody. Also, in order to tackle the second phase of our project, which we hope to launch before the school year ends, the replies from this first part must be analyzed. If it is at all possible for you to reply now, I would certainly appreciate it. In case the original correspondence is not presently at hand, a copy is attached for your convenience.

We beg those who have already answered to bear with us. We thank you all -- those who have answered, and those who are presently answering -- both for your help, and for your time.

Yours very truly,

Hubert Kitchen

APPENDIX E

RECENT PERIODICALS CONCERNING CANADIAN EDUCATION
WHICH WERE EXAMINED FOR REFERENCES TO
PROBLEMS IN EDUCATIONAL ADMINISTRATION

Title and Publisher	Issues per Annum	Issues Examined	Items Obtained
BY TEACHERS' ORGANIZATIONS			
<u>The B. C. Teacher</u> (British Columbia Teachers' Federation)	8	Sept. '59 - Apr. '61	75
<u>The A.T.A. Magazine</u> (The Alberta Teachers' Association)	10	Dec. '59 - May '61	16
<u>The Saskatchewan Bulletin</u> (The Saskatchewan Teachers' Federation)	8	Dec. '59 - Apr. '61	4
<u>The Manitoba Teacher</u> (The Manitoba Teachers' Society)	5	May '59 - Apr. '61	6
<u>The Bulletin</u> (The Ontario Secondary School Teachers' Federation)	6	Jan. '60 - Mar. '61	8
<u>The Educational Courier</u> (Ontario Public School Men Teachers' Federation and the Federation of Women Teachers' Associations of Ontario)	5	Oct. '59 - Apr. '61	13
<u>The Canadian Modern Language Review</u> (The Ontario Modern Language Teachers' Association)	4	Fall '59 - Spring '61	1
<u>The Teachers' Magazine</u> (Provincial Association of Protestant Teachers of Quebec)	5	Oct. '59 - Apr. '61	13
<u>The Educational Review</u> (New Brunswick Teachers' Association)	4	Jan. '60 - Mar. '61	1

APPENDIX E (continued)

Title and Publisher	Issues per Annum	Issues Examined	Items Obtained
<u>The Bulletin</u> (Nova Scotia Teachers' Union)	5	Oct. '59 - Feb. '61	3
<u>The N. T. A. Journal</u> (Newfoundland Teachers' Association)	8	Sept. '59 - Apr. '61	3
<u>The Canadian Teachers' Federation News Letter</u> (Canadian Teachers' Federation)	4	Oct. '59 - Mar. '61	4
BY SCHOOL BOARD MEMBERS' ASSOCIATIONS			
<u>The B. C. School Trustee</u> (The British Columbia School Trustees' Association)	4	Spring '60 - Spring '61	24
<u>The Alberta School Trustee</u> (The Alberta School Trustees' Association)	10	Jan. '60 - May '61	28
<u>The School Trustee</u> (The Saskatchewan School Trustees' Association)	8	Sept. '60 - Mar. '61	4
<u>The Manitoba School Trustee</u> (The Manitoba School Trustees' Association)	5	Nov. '59 - Mar. '61	19
<u>The Argus</u> (The Public School Trustees' Association of Ontario, Inc.)	10	Jan. '60 - Apr. '61	21
<u>The School Board</u> (The Quebec Association of Protestant School Boards)	4	May 1959	0

APPENDIX E (continued)

Title and Publisher	Issues per Annum	Issues Examined	Items Obtained
BY DEPARTMENTS OF EDUCATION			
<u>Saskatchewan Recreation</u> (Fitness and Recreation Division, Department of Education, Regina)	1-2	Winter '59 - Summer '60	0
<u>The Manitoba School Journal</u> (Department of Education, Manitoba)	5	Nov. '59 - May '61	2
<u>The Educational Record of the Province of Quebec</u> (The Protestant Committee of the Council of Education)	4	Jan. '60 - Mar. '61	6
<u>L'Instruction Publique</u> (Department de l'Instruction publique, Province de Quebec)	10	October, 1960	0
<u>The Education Office Gazette</u> (Division of Elementary and Secondary Education, Department of Education, Nova Scotia)	3	Oct. '59 - Mar. '61	2
<u>Journal of Education</u> (Department of Education, Nova Scotia)	2	Nov. '59 - Jan. '61	0
<u>Department of Education News Letter</u> (Department of Education, St. John's, Newfoundland)	10	Dec. '59 - May '61	0
BY UNIVERSITIES			
<u>The Alberta Journal of Educational Research</u> (Faculty of Education, University of Alberta)	4	Dec. '59 - Mar. '61	21

APPENDIX E(continued)

Title and Publisher	Issues per Annum	Issues Examined	Items Obtained
<u>Research Newsletter</u> (Faculty of Education, University of Alberta)	1-2	Nov. '59 - Dec. '60	0
<u>The Ontario Journal of Educational Research</u> (Department of Educational Research, Ontario College of Education)	2	Oct. '58 - Oct. '60	85
<u>The Bulletin of the Institute of Child Study</u> (Institute of Child Study, University of Toronto)	4	Mar. '60 - Mar. '61	2
<u>The University of Manitoba Faculty of Education Research Bulletin</u> (Faculty of Education, University of Manitoba)	1	Dec. '53 - Mar. '61 (except '56, '57, '59)	26
BY HOME AND SCHOOL GROUPS			
<u>Canadian Home and School</u> (Canadian Home and School and Parent-Teacher Federation, Inc.)	5	Oct. '59 - Apr. '61	8
<u>Alberta Home & School News</u> (The Alberta Federation of Home and School Associations)	4	Nov. '59 - Apr. '61	3
BY THE CANADIAN EDUCATION ASSOCIATION			
<u>Canadian Education Association News Letter</u>	9	Dec. '59 - Apr. '61	22
<u>Canadian Education</u>	4	Dec. '59 - Dec. '60	25
<u>Canadian Research Digest</u>	4	Winter '59- Fall '60	5
<u>Canadian Education and Research Digest</u>	4	March, 1961	4

APPENDIX E (concluded)

Title and Publisher	Issues per Annum	Issues Examined	Items Obtained
BY THE CANADIAN ASSOCIATION FOR ADULT EDUCATION			
<u>Food for Thought</u>	8	Oct. '59 - Apr. '61	6
BY INDUSTRY			
<u>Imperial Oil Review</u> (Imperial Oil Limited)	6	Feb. '59 - Apr. '61	9
<u>School Progress in Canada</u> (H.F. Coles and J.C. Stinson)	5-10	Dec. '59 - Apr. '61	13
<u>The Modern Instructor</u> (School Aids and Text Book Publishing Company Ltd., Regina)	10	Sept. '59 - May '61	1

APPENDIX F

RECENT BOOKS AND MISCELLANEOUS PUBLICATIONS CONCERNING
CANADIAN EDUCATION WHICH WERE EXAMINED FOR REFERENCES
TO PROBLEMS IN EDUCATIONAL ADMINISTRATION

Book	Items Obtained
<u>The Canadian Superintendent, 1959: The Superintendent as Educational Leader, Vol. 7. Toronto: The Ryerson Press</u>	6
<u>The Canadian Superintendent, 1960: The Superintendent and Good Teaching, Vol. 8. Toronto: The Ryerson Press</u>	0
<u>Education: A Collection of Essays on Canadian Education, Vol.3, 1959-60. Toronto: W.J. Gage Limited, 1960.</u>	4
Humble, A. H. <u>The Crisis in Canadian Education</u> . Toronto: The Ryerson Press, 1959.	1
MacKinnon, Frank. <u>The Politics of Education</u> . Toronto: The University of Toronto Press, 1960	1
<u>Report of the Committee on Education for the Yukon Territory 1960</u>	3
<u>Report of the Manitoba Royal Commission on Education, 1959</u>	5
<u>Report of the Royal Commission on Education, Province of British Columbia, 1960</u>	13
St. John J. Bascom. <u>Spotlight on Canadian Education</u> Toronto: W.J. Gage, Limited, 1959.	2
<u>The Chronicle -Herald (Halifax) May 16, 1961</u>	2
Addresses Delivered at the 1961 CEA Short Course, Banff, May-June, 1961 (mimeographed)	4

APPENDIX G

RECENT ANNUAL REPORTS OF PROVINCIAL DEPARTMENTS OF EDUCATION
WHICH WERE EXAMINED FOR REFERENCES TO PROBLEMS
IN EDUCATIONAL ADMINISTRATION

Report	Items Obtained
<u>Public Schools of the Province of British Columbia</u> <u>Eighty-eighth Annual Report 1958-59. The Queen's Printer,</u> <u>1960.</u>	3
<u>Fifty-fifth Annual Report of the Department of Education</u> <u>of the Province of Alberta, 1960. Edmonton: The Queen's</u> <u>Printer, 1960</u>	0
<u>Annual Report of the Department of Education of the Province</u> <u>of Saskatchewan 1959-60. Regina: The Queen's Printer, 1961</u>	2
<u>Province of Manitoba Report of the Department of Education for</u> <u>the Year Ending June 30, 1959. Winnipeg: The Queen's Printer</u> <u>for Manitoba, 1959</u>	0
<u>Ontario Department of Education Report of the Minister 1960</u>	0
<u>Province of Quebec Report of the Superintendent of Education</u> <u>1958-59</u>	0
<u>Annual Report of the Department of Education of the Province</u> <u>of New Brunswick for the School Year Ended June 30, 1960</u> <u>Fredericton, New Brunswick, 1961</u>	2
<u>Province of Nova Scotia Annual Report of the Department of</u> <u>Education for the Year Ended July 31, 1960.</u> <u>Halifax: The Queen's Printer, 1961</u>	0
<u>Annual Report of the Department of Education of the Province</u> <u>of Prince Edward Island for the Fiscal Year Ending March 31st,</u> <u>1960. Summerside.</u>	5
<u>Government of Newfoundland Annual Report of the Department of</u> <u>Education for the Year Ending March 31st, 1959.</u> <u>St. John's: The Queen's Printer.</u>	1

APPENDIX H

LETTER OF INSTRUCTIONS, ACCOMPANYING CPEAC QUESTIONNAIRE

11127 83 Avenue
Edmonton, Alberta
July 20, 1961

Dear

We thank everyone for helping us identify a large number of crucial problems facing persons in positions of leadership in Canadian school systems. From the replies to our questionnaire and from Canadian publications of the past year and a half, some eight hundred items were collected. These, by dint of much sorting, co-ordinating and generalizing, we condensed, as objectively as we could, into some eighty problems.

Now, for purposes of guiding research workers, we wish to arrange these problems according to the degree they are considered crucial to leaders in education. Accordingly, we have again selected as our sample those who attended the 1961 CEA Short Course at Banff.

We would like for you to consider the eighty items listed on the enclosed little cards. Please indicate, in the following manner, the degree to which you, in the light of your experience, consider each problem crucial.

First, read them carefully, sorting them into three piles on the cleared desk or table before you. On the left place those that to you are obviously quite crucial, on the right those obviously not crucial. Place the remainder -- those that are doubtful or in between -- in a centre pile.

Now, sort or tease the problems from three into eleven piles as follows: the three most crucial in the first pile, the five next crucial in the second pile, the seven next crucial in the third, nine in the fourth, ten in the fifth, twelve in the sixth, ten in the seventh, nine in the eighth, seven in the ninth, five in the tenth, three in the eleventh.

Pile No.	1	2	3	4	5	6	7	8	9	10	11
Number of Problems	3	5	7	9	10	12	10	9	7	5	3

When you are satisfied with your sorting, please take the enclosed post card, and in the blanks write the numbers of the problems in each of the eleven piles. (You will notice that the number of the problem appears at the top of each little card.) You need mail only the completed post card. The whole procedure takes about forty-five minutes. All replies are confidential and will be reported without reference to individuals. We thank you very much for your co-operation. We look forward to sending you a resumé of the completed project.

Yours sincerely,
H. W. Kitchen

APPENDIX I

FOUR OF THE EIGHTY CARDS FORMING THE CPEAC QUESTIONNAIRE

.....
1
DEVELOPING A SOUND ROLE FOR THE SUPERIN-
TENDENT-- policy making, curriculum de-
velopment, etc.; clarifying the role of
the provincially-appointed superintend-
ent; . . .
.....

.....
2
PROVIDING MORE PROVINCIAL AND CANADIAN
STANDARDIZED ACHIEVEMENT TESTS with up-to-
date norms.
.....

.....
3
GUIDING PUPILS INTO PROGRAMS IN LINE WITH
THEIR CAPABILITIES DESPITE THE PRESTIGE
ATTACHED TO MATRICULATION, and the stigma
to terminal, general, or vocational pro-
grams.
.....

.....
4
PROVIDING A GOOD GENERAL HIGH-SCHOOL
COURSE FOR "AVERAGE" STUDENTS NOT UNIVER-
SITY BOUND.
.....

APPENDIX J

THE POST CARD FOR RECORDING ANSWERS TO THE CPEAC QUESTIONNAIRE

CODE NUMBER

CRUCIAL PROBLEMS FACING LEADERS IN CANADIAN EDUCATION		
PILE NO.	PROBLEM NUMBERS	TOTAL
1	_____	3
2	_____	5
3	_____ _____	7
4	_____ _____	9
5	_____ _____	10
6	_____ _____	12
7	_____ _____	10
8	_____ _____	9
9	_____ _____	7
10	_____	5
11	_____	3

APPENDIX K

FOLLOW-UP LETTER FOR THE CPEAC QUESTIONNAIRE

11127 83 Avenue
Edmonton, Alberta
October 12, 1961

Dear

During the summer vacation we wrote the members of the 1961 CEA Short Course for further help in our identification for research workers of the most crucial problems facing leaders in Canadian education. We asked them to sort according to cruciality eighty educational problems compiled mainly from the preliminary questionnaire. To date fifty-three of the seventy-four have replied. A provisional analysis of their responses is producing some very interesting findings.

Because of our numerically small sample of respondents, it is imperative, if we are to obtain results mathematically significant, to have more replies. In fact we would like everyone who has not already done so to take the enclosed cards, sort them into eleven piles according to instructions, and return the completed postcard to us. The encouraging letters of a number of respondents assure us that the task is both simple and interesting.

Our records list you as not having sorted the eighty cards. We appreciate that you have been busy with school opening and the like, and quite probably have overlooked our request. I would like to say, too, that all replies are completely confidential. We really must have your completed postcard, if it is at all possible. After that we will not bother you again. I will be both grateful for your help and interested in the order you place the problems.

Yours sincerely,

Hubert Kitchen

APPENDIX L

LETTER TO SOME RESPONDENTS, REQUESTING RELIABILITY
CHECK FOR CPEAC QUESTIONNAIRE

11127 83 Avenue
Edmonton, Alberta
August 14, 1961

Dear

All indications are that the research project you have been helping us with is going to produce some very interesting findings. Although earlier indications were that the statistical reliability of our sorting technique is sufficiently high, we have to be sure before we can state our conclusions with authority. The only way to test this reliability thoroughly is to have people who have already sorted the problems to repeat the procedure. Accordingly we are asking a few of the earlier respondents to help us.

To enable us to determine this statistical reliability, we would like for you to take the enclosed cards and follow exactly the same procedure you did last time -- read the cards very carefully sorting them into three piles, then tease them out into eleven piles, write the numbers on the enclosed post card and return it to me. I have enclosed for your convenience a copy of the original directions. Please do not refer to any notes you may have made on your original sorting, and try to avoid remembering your previous answers. Act as if you were sorting the cards for the first time.

I cannot begin to thank you for all the help that you and the other members of the 1961 CEA Short Course are giving me. However, after this I do not think we shall have to bother you again. I will be forever grateful to you for your help.

Yours sincerely,

H. W. Kitchen

APPENDIX M

LETTER OF INSTRUCTIONS, ACCOMPANYING RESEARCH
EXPERT QUESTIONNAIRE

11127 83 Avenue
Edmonton, Alberta
July 18, 1961

Dear

We would be very grateful for your opinions as one experienced in educational research, as to the profitability of conducting studies in a number of problem areas in Canadian education.

As part of our attempt to indicate the most promising approaches to research in educational administration, especially for research by graduate students, we asked the members of the 1961 CEA Short Course and a number of professors of education to identify crucial problems facing leaders in Canadian education. From their suggestions and from recent Canadian publications, some eight hundred items were obtained which have been condensed to eighty. These are presently being rated by the members of the 1961 CEA Short Course as to their importance to practitioners. The importance of a problem is, however, no guarantee that it is suitable for research. Many educational problems are concerned primarily with judgment, values, and the like, so that research may not contribute much to their solution.

At this point we want expert opinion as to which of these problems and problem areas are most suitable for research. Accordingly we are writing you, and a number of other prominent research people in Canadian education.

We would like for you to consider each problem in our enclosed randomly-arranged list and to circle one of the numbers 1, 2, 3, 4, 5 appearing to the left, according to the suitability of the problem for research, and according to the following rationale:

1. Very suitable
2. Suitable
3. Difficult to decide between suitable and unsuitable
4. Unsuitable
5. Very unsuitable

It would also be of great assistance to have, in addition, your suggestions as to the type of research that might be done in those problem areas that are suitable or very suitable for research. Accordingly, for those problems rated as 1 or 2 (and possibly others, if appropriate) we

APPENDIX M (continued)

would like for you to circle S, E, H, or P, or more than one, according to the following classification outlined by Brehaut.¹

- S -- Survey Research, obtaining its data from an investigation of conditions as they exist, attempts to describe conditions, discover current practices, discover relationships or establish norms.
- E -- Experimental Research, obtaining its data by means of controlled conditions, attempts to study the relative effects of various treatments applied to members of a population, or of the same treatment applied to members of different populations, as well as to develop improved research tools and techniques.
- H -- Historical Research, obtaining its data largely from historical documents, attempts to "Extend, correct, or verify knowledge" concerning the past. This would include the history of an individual or a group of individuals, of an institution or agency, the general educational development of a specific geographical area or some particular facet of its educational development, of educational movements, of the comparative educational development of two or more areas.
- P -- Philosophical Research, obtaining its data largely by means of "logic or higher thought processes", attempts to analyze expressed ideas or principles or to give expression to new ideas or principles. This would include the analysis or expression of a system of philosophy or the philosophy of an individual, the application of either to a particular area, the comparative study of two or more systems of philosophy or of the philosophies of two or more individuals.

Having circled the appropriate number and letter(s), please return the list in the enclosed self-addressed envelope. I might add that all replies are confidential and will be reported without reference to individuals.

We thank you very much for your co-operation. We look forward to sending you a resumé of the completed project.

H. W. Kitchen

¹Willard Brehaut, A Quarter Century of Educational Research in Canada: An Analysis of Dissertations (English) in Education Accepted by Canadian Universities, 1930-1955 (Information Series No. 10. Toronto: Department of Educational Research, Ontario College of Education, University of Toronto, 1958), pp. 15-18.

APPENDIX N

LETTER TO FIVE RESPONDENTS, REQUESTING RELIABILITY
CHECK FOR RESEARCH EXPERT QUESTIONNAIRE

11127 83 Avenue
Edmonton, Alberta
December 27, 1961

Dear

All indications are that the research project you have been helping us with will produce some rather interesting findings. However, an adequate measure of the statistical reliability of our questionnaire is necessary before we can place much faith in it. Accordingly, to provide us with this measure, we are asking a small randomly-selected sample of those who have already rated the problems to repeat the procedure.

We would like for you to take the enclosed list of problems, read the attached copy of the original directions, and, acting as if you were completing the questionnaire for the first time, rate each problem 1, 2, 3, 4, or 5, according to its suitability for research, and to circle S, E, H, P, according to the type of research, if any, that you see as being possible.

I appreciate the help that you have given me in this project and I realize that the task is an onerous one. After this, I think we shall not have to bother you again. Thank you.

Yours sincerely,

H. W. Kitchen.

APPENDIX O

RATINGS ASSIGNED PROBLEMS ACCORDING TO SUITABILITY FOR
RESEARCH BY TWELVE RESEARCH EXPERTS, AND THEIR
SUGGESTIONS AS TO POSSIBLE TYPES OF RESEARCH

Problem Number	Range of the Central Two-Thirds	Number of Respondents Choosing Each Category								
		1 - Very Suitable	2 - Suitable	3 - Difficult to Decide	4 - Unsuitable	5 - Very Unsuitable	S - Survey	E - Experimental	H - Historical	P - Philosophical
<u>Determining What to Teach</u>										
1	2.50	4	4	2	1	1	1	8	0	1
2	2.33	2	4	3	3	0	6	3	0	1
3	2.60	0	2	3	2	5	1	2	0	1
4	2.75	2	4	1	4	1	2	4	0	3
5	2.33	0	3	3	4	2	2	2	0	0
6	1.86	1	0	7	2	2	2	0	1	1
7	2.00	1	1	5	3	2	2	1	0	1
8	3.00	2	5	2	1	2	3	4	2	1
9	2.33	0	3	5	2	2	4	0	1	3
10	2.72	0	2	1	3	5	2	0	1	5
11	2.00	2	3	5	1	1	3	2	2	8
12	2.21	5	3	2	0	1	0	9	0	0
13	1.83	0	3	5	4	0	4	1	0	1
14	2.00	2	7	1	1	1	6	8	0	2
15	1.86	0	6	3	1	1	3	5	0	1
16	2.80	1	3	5	0	2	4	2	0	2
17	1.60	5	5	1	0	1	6	12	0	2
18	1.83	1	6	3	1	1	5	7	0	2
<u>Teaching Methods and Aids</u>										
19	1.60	5	5	0	2	0	2	10	0	1
20	1.20	3	8	1	0	0	1	12	0	2

APPENDIX O (continued)

Problem Number	Range of the Central Two-Thirds	Number of Respondents Choosing								
		1	2	3	4	5	S	E	H	P
21	2.10	5	3	4	0	0	3	7	0	0
22	.80	10	2	0	0	0	2	12	0	0
23	3.10	5	3	1	2	1	4	7	0	0
24	2.66	2	3	3	2	1	2	7	0	1
25	.80	10	1	1	0	0	5	6	0	0
26	2.33	0	3	5	2	2	4	3	0	3
27	2.50	0	2	2	4	4	2	2	0	0
<u>Guidance</u>										
28	1.43	5	6	1	0	0	4	11	0	0
29	2.66	2	3	3	2	1	3	3	2	2
30	1.43	5	6	1	0	0	10	7	0	1
31	1.33	3	7	2	0	0	7	5	0	1
32	1.91	2	3	5	1	0	3	6	0	1
<u>Obtaining and Improving Staff</u>										
33	2.25	1	4	4	2	1	6	3	1	0
34	3.00	1	3	3	2	3	4	0	0	4
35	2.00	1	1	3	5	2	3	1	1	3
36	2.33	2	3	4	3	0	6	4	0	1
37	1.60	5	3	2	2	0	6	6	1	1
38	1.86	6	3	1	1	0	0	9	0	0
39	2.67	2	1	5	3	1	4	3	0	1
40	2.33	3	5	2	1	1	4	6	0	1
41	1.36	4	7	0	0	1	9	6	0	5
42	2.22	0	7	2	2	1	5	2	0	1
<u>Organizing Pupils, Staff, Boards</u>										
43	1.86	1	7	2	1	1	4	9	0	0
44	2.33	3	6	1	1	1	1	10	0	0
45	1.60	0	5	5	2	0	5	3	0	1
46	2.00	2	5	3	2	0	6	4	0	1
47	2.30	1	5	3	2	1	8	4	0	0
48	2.33	0	2	5	2	3	5	1	0	2
49	2.10	0	5	4	2	1	6	4	2	1

APPENDIX O (continued)

Problem Number	Range of the Central Two-Thirds	Number of Respondents Choosing								
		1	2	3	4	5	S	E	H	P
50	2.00	3	5	3	1	0	5	4	0	1
51	1.25	8	4	0	0	0	2	12	0	1
52	2.67	0	6	3	1	2	8	2	0	3
53	3.33	2	1	4	2	3	3	1	1	3
<u>Dividing and Co-ordinating Responsibility</u>										
54	3.25	1	4	2	1	4	1	0	4	2
55	2.67	2	4	2	3	1	6	2	3	4
56	2.33	1	6	1	4	0	6	1	4	2
57	2.33	1	1	3	4	3	1	0	1	2
58	3.33	2	2	5	0	3	6	3	0	2
59	2.25	4	3	4	1	0	8	1	1	6
60	1.56	0	3	6	1	1	6	2	1	0
61	2.30	1	5	3	2	1	7	2	1	1
62	2.00	2	3	5	2	0	3	4	0	1
63	2.93	0	3	3	1	4	0	3	0	2
64	2.67	0	3	3	3	3	1	0	3	3
65	1.75	0	8	2	1	1	6	2	2	0
66	2.16	0	2	4	3	2	3	0	0	2
67	1.71	1	0	1	5	4	1	1	0	1
68	2.17	0	1	3	4	4	1	0	2	2
69	3.00	1	3	3	2	3	4	3	0	1
70	2.50	0	2	2	4	4	1	1	0	1
71	1.80	1	0	3	5	2	1	0	1	2
72	2.67	0	6	3	1	2	5	6	0	2
<u>Finances and Plant</u>										
73	2.00	1	1	4	4	2	2	0	0	2
74	1.93	0	0	3	4	5	2	0	1	2
75	2.50	0	4	2	4	2	5	1	0	1
<u>Research and Theory</u>										
76	3.33	2	3	0	4	3	4	0	0	1
77	3.33	3	3	3	1	2	5	4	0	1
78	3.50	2	1	2	3	4	1	1	0	1
79	2.50	1	1	4	2	4	2	2	0	1
<u>Miscellaneous</u>										
80	2.42	1	4	3	3	1	2	4	0	0

APPENDIX P

RATINGS ACCORDING TO CRUCIALITY OF EIGHTY PROBLEMS IN
EDUCATIONAL ADMINISTRATION IN CANADA ASSIGNED
BY SIXTY MEMBERS OF THE 1961
CEA SHORT COURSE

Problem Number	Cruciality Rating										Median Rating	Rank	
	Most 1	2	3	4	5	6	7	8	9	Least 10			11
<u>Determining What to Teach</u>													
1	17	12	7	5	10	5	4	0	0	0	0	2.64	1
2	0	10	5	9	9	12	7	5	3	0	0	5.17	27.5
3	3	2	4	1	2	3	2	10	6	7	20	9.00	80
4	9	6	7	9	11	8	4	4	1	0	1	4.39	14.5
5	0	2	2	3	4	11	11	8	7	8	4	7.23	62
6	2	1	3	5	6	11	9	6	8	6	3	6.72	53
7	0	3	8	3	5	14	14	6	3	3	1	6.29	44
8	1	3	1	1	4	6	5	10	5	9	15	8.40	78
9	1	2	0	4	11	8	10	11	7	5	1	6.90	55.5
10	12	8	4	6	7	6	2	6	5	2	2	4.50	16
11	6	6	5	8	11	6	8	6	1	2	1	4.95	24
12	1	3	1	10	8	13	10	7	6	1	0	6.04	38.5
13	0	5	11	6	14	11	10	2	1	0	0	5.07	26
14	0	2	5	7	10	10	8	9	4	3	2	6.10	41
15	0	5	11	16	10	7	10	0	0	1	0	4.38	13
16	6	6	17	12	8	5	4	0	2	0	0	3.58	4
17	4	8	11	12	10	10	4	1	0	0	0	4.08	8
18	2	1	3	11	2	12	8	8	9	3	1	6.42	46.5
<u>Teaching Methods and Aids</u>													
19	3	3	11	7	5	8	7	8	5	2	1	5.63	31
20	1	3	7	10	11	15	6	2	3	1	1	5.32	29
21	1	5	5	14	10	9	4	3	5	3	1	5.00	25
22	0	1	6	6	13	11	6	7	7	3	0	5.86	34
23	1	5	10	19	12	5	4	2	1	1	0	4.24	11
24	2	3	11	7	6	13	4	9	1	4	0	5.58	30
25	1	7	9	9	6	11	6	6	3	1	1	5.17	27.5
26	1	1	4	3	8	13	6	12	3	8	1	6.50	49
27	0	0	2	4	5	17	5	10	11	3	3	6.90	55.5
<u>Guidance</u>													
28	0	3	6	18	13	12	5	2	1	0	0	4.73	20

APPENDIX P (continued)

Problem Number	Cruciality Rating											Median Rating	Rank
	Most 1	2	3	4	5	6	7	8	9	Least 10	11		
29	10	11	11	10	7	6	2	2	0	1	0	3.32	2
30	0	7	9	12	10	8	8	2	2	1	1	4.70	19
31	1	7	5	3	12	8	7	6	6	3	2	5.75	33
32	1	4	1	7	12	8	5	7	9	4	2	6.13	42

Obtaining and Improving Staff

33	3	14	8	8	8	9	3	5	1	1	0	4.13	10
34	0	0	4	4	7	6	8	6	10	12	3	7.67	66
35	0	1	1	4	7	5	9	8	15	5	5	7.88	70
36	12	8	11	8	12	2	3	1	3	0	0	3.41	3
37	1	10	10	7	11	12	3	5	1	0	0	4.68	17.5
38	4	10	12	8	7	5	4	4	5	1	0	4.00	6
39	4	11	9	7	8	8	7	2	3	1	0	4.36	12
40	5	10	8	13	9	7	5	0	3	0	0	4.04	7
41	6	10	4	17	9	7	3	3	1	0	0	4.09	9
42	1	1	1	5	4	5	7	15	12	5	4	7.90	71

Organizing Pupils, Staff, Boards

43	2	5	6	14	9	5	7	10	1	1	0	4.83	21.5
44	0	5	6	8	9	13	6	7	4	0	2	5.65	32
45	1	1	7	6	7	8	15	8	5	2	0	6.50	49
46	0	0	2	6	7	10	9	12	8	2	4	7.06	58
47	0	2	1	11	3	7	9	15	6	6	0	7.17	59.5
48	0	3	6	5	5	11	7	8	5	7	3	6.50	49
49	1	1	5	6	6	10	8	5	7	11	0	6.63	51
50	0	2	4	4	3	13	8	10	6	6	4	7.00	57
51	0	4	1	7	11	16	8	5	5	2	1	5.94	36
52	1	5	3	6	4	12	15	9	3	2	0	6.42	46.5
53	1	2	3	2	7	3	9	5	9	8	11	8.10	75

Dividing and Co-ordinating Responsibility

54	0	1	0	1	5	5	6	21	6	7	8	8.07	74
55	0	3	2	3	9	15	10	7	6	5	0	6.37	45
56	0	1	2	1	5	14	10	13	8	6	0	7.20	61
57	8	3	3	4	7	13	9	7	3	3	0	5.88	35
58	4	3	5	3	8	13	9	5	8	2	0	6.04	38.5
59	3	8	8	8	8	10	7	2	3	3	0	4.88	23

APPENDIX P (continued)

Problem Number	Cruciality Rating											Median Rating	Rank
	Most 1	2	3	4	5	6	7	8	9	10	Least 11		
60	2	0	8	3	12	9	12	6	5	3	0	6.06	40
61	0	1	3	4	10	9	10	10	6	7	0	6.80	54
62	0	0	2	3	3	14	6	11	5	9	7	7.68	67
63	2	1	2	6	10	13	6	6	6	5	3	6.19	43
64	0	1	4	0	7	8	13	8	13	4	2	7.27	63
65	0	0	0	1	5	5	12	14	9	10	4	8.00	72
66	0	1	1	2	5	13	12	15	6	4	1	7.17	59.5
67	0	1	7	7	9	12	8	7	5	1	3	6.00	37
68	0	1	0	6	1	6	11	5	10	7	13	8.50	79
69	6	3	7	11	9	12	9	1	2	0	0	4.83	21.5
70	1	1	2	3	5	6	7	7	11	11	6	8.21	77
71	0	0	0	2	4	13	8	15	10	6	2	7.70	68.5
72	0	1	5	3	0	8	16	8	6	6	7	7.31	64

Finances and Plant

73	5	1	5	7	6	4	12	3	7	5	5	6.67	52
74	1	0	3	8	6	5	6	5	12	9	5	7.70	68.5
75	0	1	2	5	7	7	7	17	6	7	1	7.56	65

Research and Theory

76	7	6	9	9	12	3	9	3	2	0	0	4.39	14.5
77	8	6	13	12	6	5	3	4	2	1	0	3.75	5
78	1	1	0	0	2	8	13	8	14	11	2	8.13	76
79	4	4	7	13	11	8	4	3	3	3	0	4.68	17.5

Miscellaneous

80	0	1	6	2	3	6	7	9	8	8	10	8.06	73
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APPENDIX Q

CONTINGENCY COEFFICIENTS INDICATING TENDENCIES OF RESPONDENTS
MENTIONING ONE PROBLEM AREA TO MENTION OTHERS

	DWT	DCR	OPSB	FP	TMA	RT	G
<hr/>							
OIS	.24*	.17	.17	.03	.004	.04	.03
DWT		.19	.11	.13	.13	.16	.21*
DCR			.24*	.37**	.01	.06	.11
OPSB				.005	.13	.02	.25*
FP					.06	.05	.03
TMA						.11	.008
RT							.18

Note: One asterisk indicates statistical significance at the .05 level, two at the .001 level. These calculations were based on 2 x 2 tables containing the frequencies of mention reported in Table XI of Chapter IV, and using the formulae for C and χ^2 suggested on pages 195 and 172 respectively of George Ferguson, Statistical Analysis in Psychology and Education (New York: McGraw-Hill Book Company, Inc., 1959).

